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AUGUST 2016 | #174 | £4 / €7 / $13

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GAME DESIGN | CODING | ART | SOUND | BUSINESS

A NEW PLAYGROUND

Playground Games™

Playground Games™

A New Playground

In June we announced Forza Horizon 3 at E3, to critical and popular acclaim. We left Los Angeles with over 40 awards, including the coveted Game Critics Award for Best Racing Game of E3. Our team are currently hard at work ensuring that our third title will also be our best yet, and we can't wait to show the world more of Forza Horizon 3.

After six successful years, Playground are looking to the future and to studio expansion. This year, we will begin building a second AAA team at our headquarters in Leamington Spa, to work on **an exciting new project in an entirely new genre**. As always, we need the very best developers to join us and continue delivering the high quality standards for which Playground is renowned.

We are looking for the following key positions on our new team:

Production Director

- You will setup and lead a world-class production team on an entirely new AAA project
- Help to define and be responsible for executing against the project's vision
- Take responsibility for team management and mentoring, as well as being a key member of the project leadership group

Art Director

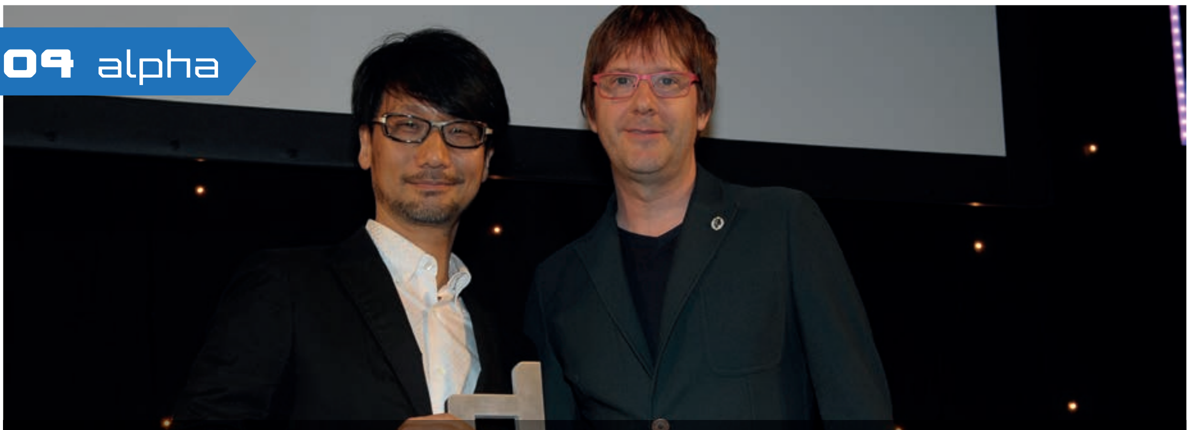
- You will develop and drive the artistic vision for this AAA project
- Build and manage an exceptional art team
- Take responsibility for Art production pipelines and set quality standards

If either of these positions sound like the next exciting chapter in your career, we want to hear from you. We'll be adding many other positions over the next few months, so please check out the Careers page on our website regularly, or sign up to our Newsletter for periodic updates on new roles within Playground.

www.playground-games.com/careers

develop #179 AUGUST 2016

09 alpha



THE LEGEND OF KOJIMA

We interview one of the world's biggest games developers following his departure from Konami, the debut of his upcoming title *Death Stranding* and, of course, his Development Legend win at the Develop Awards

17 beta

THE DARE WITCH PROJEKT

CD Projekt Red reflects on its evolution over the course of the *Witcher* trilogy

57 build

THE FUTURE OF GRAPHICS

Develop interviews the engine and tools firms that are pushing the boundaries of visual fidelity

22 beta

THE DEVELOP AWARDS 2016

The winners' reactions, plus highlights from the night

28 beta

LIFE AFTER LIONHEAD

We discuss the studio's legacy with former *Fable* devs

79 build

POST-MORTEM: FFXIV

The neverending story of the *Final Fantasy* MMO

ALSO • **10** Diary Diates • **12** Opinion • **51** Jobs • **68** Heard About • **70** Tutorial • **82** Coda: Ask Amiqus

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Editorial

SUPER EFFECTIVE

If you're reading this, well done for tearing your eyes away from *Pokémon Go*.

While this intro won't apply to everyone, with more than 75m downloads already chances are that a fair chunk of *Develop* readers have been chasing imaginary monsters this month.

Much has already been written about the game's superb blend of IP and mechanic, but I like to think *Pokémon Go* shows one of the better strengths of the games industry: bringing people together.

Think about it. The biggest breakout hits, the ones that ensnare the mainstream, are titles best experienced with friends or family: *Guitar Hero, SingStar, Wii Sports.*

> **Few titles see people going through the same process but telling unique tales of glorious triumph or hilarious failure.**

Since *Pokémon Go* launched, my Facebook feed has been flooded with videos and photos of friends hunting in packs. WhatsApp is now a cacophony of bragging texts showing off recent captures. And we've all seen footage of crowds racing to bag that rare pocket monster.

Few titles see people going through the same process but telling entirely unique tales of glorious triumph or hilarious failure. So many games focus on pitting players against each other, but how many encourage them to share such stories?

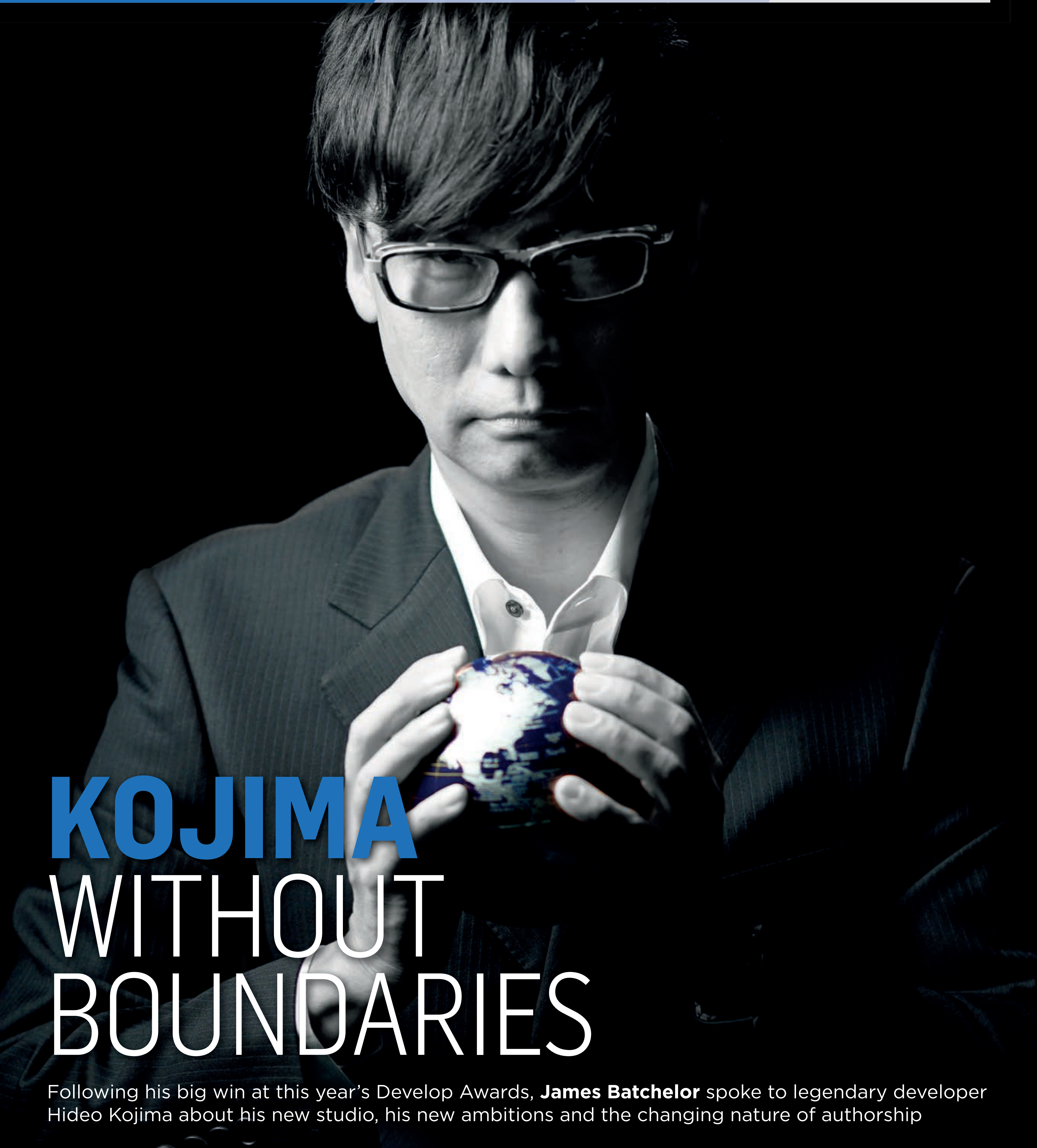
None of this means you should all put down your tools and start working on location-based games. Instead, look at your title and ask: how will it connect people?

James Batchelor
jbatchelor@nbmedia.com

GOING PRO
Check out the finalists for the inaugural eSports Industry Awards
P09

THE RIGHT INFLUENCE
SuperData's Joost van Dreunen reveals how to work with influencers
P12

BEYOND THE BLOCK
Shahid Ahmad runs through his 12 tips for escaping a creative rut
P13



KOJIMA WITHOUT BOUNDARIES

Following his big win at this year's Develop Awards, **James Batchelor** spoke to legendary developer Hideo Kojima about his new studio, his new ambitions and the changing nature of authorship

A man walks onto the stage to the sound of dramatic music, thunderous applause and the crowd chanting his name. Taking a moment to calm them down, he casually declares: "I'm back."

Appearing at PlayStation's E3 2016 conference was Hideo Kojima's biggest public appearance since his departure from Konami. During the last quarter of a century, he has made his name with the flagship *Metal Gear* franchise, as well as other fan favourites such as *Zone of the Enders* and *Boktai*.

A month after presenting the world with his new studio's debut title, *Death Stranding,* Kojima took to another stage in front of hundreds of industry figureheads as he accepted the top honour of Development Legend at our very own 2016 Develop Awards.

The accolade recognises everything Kojima has accomplished in the first 30 years of his career, and yet the buzz around his new venture makes it impossible to shake the notion that the best could be yet to come.

After spending decades working on the same franchise, Kojima is certainly savouring his newfound independence, as well as the chance to build new games brands and concepts from scratch – all in that familiar Kojima style, of course.

"There's a lot of freedom in terms of what type of characters I can create – there are no boundaries," he tells *Develop*.

"Of course, even when working with the same IP, every time I made a new game I tried to bring in new elements, new ideas. Despite the *Metal Gear* games all being in the same series, I was always trying new things and to deliver something new. So our approach hasn't changed that much."

ASSEMBLING THE TEAM

The new Kojima Productions, a fully independent studio headed up by the man himself, also gives the father of *Metal Gear* the chance to go back to his roots. While he won't share the exact figure, Kojima says his budget – thanks largely to his partnership with PlayStation – is "not that limited" as he is "trying to compete with triple-A titles".

The big difference this time around is the headcount. While developers around the world would no doubt be pounding down his door for the chance to work with Kojima, the developer has chosen to keep his staff reasonably small. In fact, he likened forming his new studio to "starting a band".

"The teams I originally worked with for *Metal Gear Solid 1* and *2* were very small," he explains. "For *MGS3* we tried to implement a somewhat 'Westernised' line of production and we had mixed results. Maybe the *Metal Gear Solid V* team got a little too big.

"This time, I wanted to create something that felt a little more hand-crafted. In that regard, it was a conscious choice I made to go back to smaller teams."

> **In movies, new talent is scouted and chosen. In the future, I hope we'll have a parallel for that in games.**
> *Hideo Kojima*

All attention is on *Death Stranding.* Little is known about the mysterious title beyond the fact that it stars *Walking Dead* actor Norman Reedus, a lot of digital whales were killed to make the surreal teaser trailer, and Kojima's underlying ambitions for the title: that this will be as much about the connections between people as it will about combat and other typical video game fare.

"We're making this one game first," he stresses. "If it turns out to be successful, we can make it a franchise. But that could us get into the cycle where you have to launch a game in that series every year or so, which would be a similar situation to where I previously was and that's something I really don't want to happen.

"I'm working with people that want to make a good product. I want to focus on that, prioritise on making it something the whole team is proud of. From that, we'll see what happens."

That's not to say there are no plans for a *Death Stranding 2,* should the market demand it – but an interesting twist is that Kojima may not head up a sequel himself.

"I'm sure Sony would want to make it a franchise," he says. "I don't know if I'd make the continuation of this game or not, but I definitely want to make something that if someone else wanted to make a continuation, they could make it."

It's hard not to imagine *Death Stranding* being anything but an instant success. The support for Kojima from both fans and the industry, combined with curiosity about his post-*Metal Gear* IP, assure the game of reasonably strong sales. The trailer said little to nothing about its structure or concept and yet hype around the title is almost palpable. Is it even possible to live up to such anticipation?

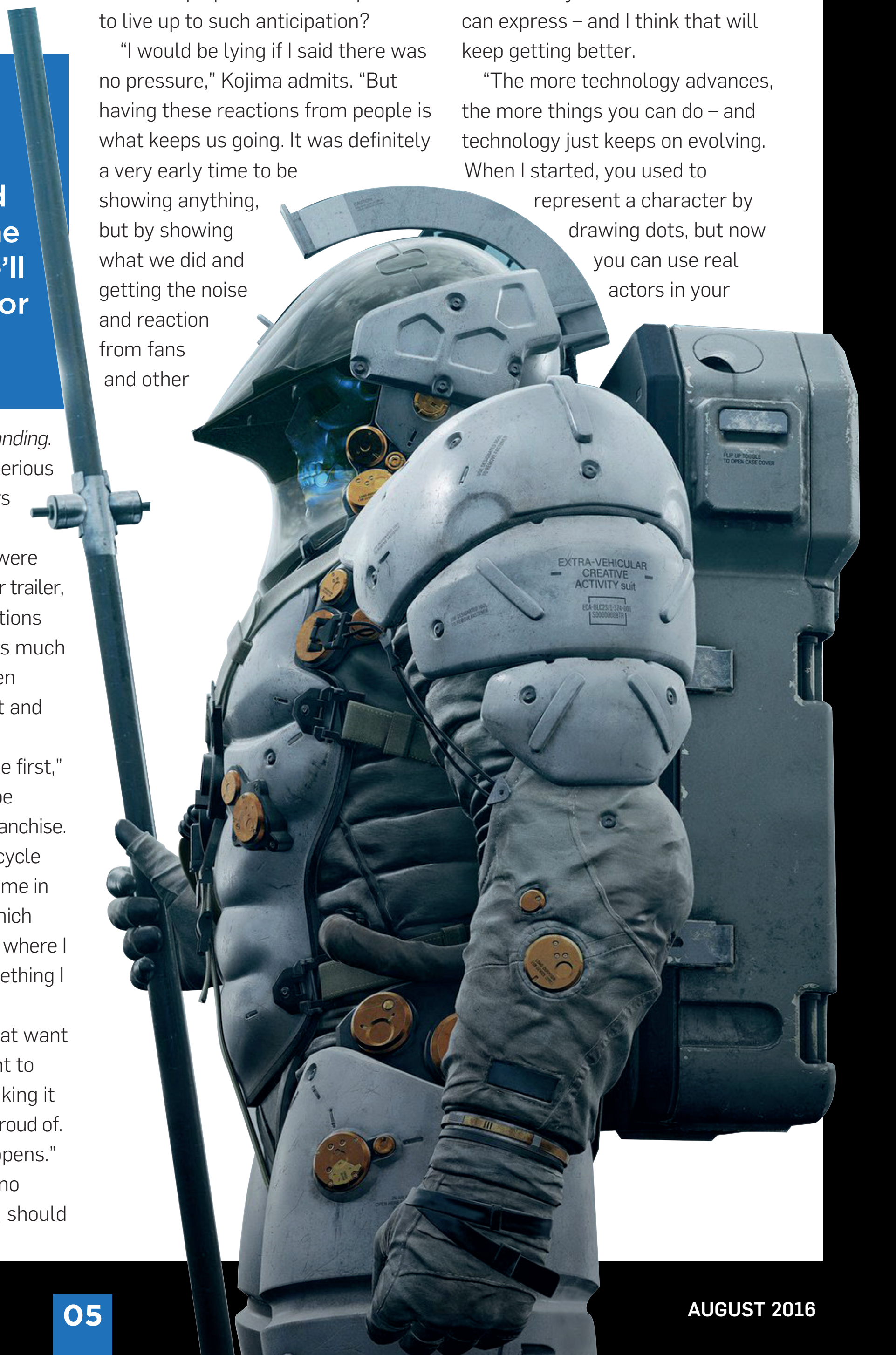
"I would be lying if I said there was no pressure," Kojima admits. "But having these reactions from people is what keeps us going. It was definitely a very early time to be showing anything, but by showing what we did and getting the noise and reaction from fans and other people, that is what keeps us making games, keeps us going. The pressure is definitely working in a positive way for us."

SELECTING THE TOOLS

While Kojima is going back to earlier processes in terms of team size, he is only looking forward when it comes to the technology powering his future games; digitally scanning Reedus for *Death Stranding* and capturing his performance will take his character beyond anything seen during Solid Snake's adventures.

"Back when I started, the hardware was very limited," he says. "Games have evolved a lot and the level of expression you can reach has become very close to what a movie can express – and I think that will keep getting better.

"The more technology advances, the more things you can do – and technology just keeps on evolving. When I started, you used to represent a character by drawing dots, but now you can use real actors in your



games. This will just keep getting better, so I think the possibilities are infinite. It's rare to find a medium like that."

As such, the auteur has been touring the world in search of the best games-making technology, visiting some of the biggest studios along the way. In his travels, he has learned that simply having the tools is not enough.

"The technology isn't radically different [at different companies]," he says. "For example, let's say Studio A has technology good enough to make a rocket that can go to the Moon. Studio B and C's technology will be different, but you won't find any rockets that will get you to Pluto. They're still going to the Moon.

"So it's not about the technology, but how you're using it, what kind of vision you're implementing, and the kind of people you're working with. Using the same example, Studio A may have the technology to reach the Moon but Studio B – despite having very similar technology – somehow manages to make it all the way to Mars. Those differences were what particularly impressed me."

Out of the studios he visited, Kojima found the UK's Media Molecule to be particularly praiseworthy, championing the firm's atmosphere of openness and collaboration. Yet, while he plans to take a few pages of out their book, he stresses that the new Kojima Productions will remain distinctly Japanese.

"Some studios and companies can feel rather military," says Kojima. "You have a big building, you go to the higher command in their big meeting rooms and they give you orders on how things are going to work. Media Molecule felt less vertical, almost horizontal. People get together to discuss things in the lunch area. They mentioned they had this family concept and that's how they make games – that definitely had an impact on me.

"I don't think the way we are building our team is necessarily Westernised. One thing that we were definitely inspired by, especially when it comes to Media Molecule, is how original and unique their team and their ideas were. That was inspiring."

WHAT'S IN A NAME?

Despite being one of the biggest names in video games development, it's no secret that Kojima had other ambitions when he started out. As he embarks on this new chapter, the developer reflects on his career and finds he has no regrets.

> **This time, I wanted to create something that felt a little more hand-crafted.**
> *Hideo Kojima*

"When I was young, I wanted to make a movie," he says. "I liked to create stories, so I started writing novels when I was very young – of course, they never got published. Back then in Japan, it was very difficult to make a movie.

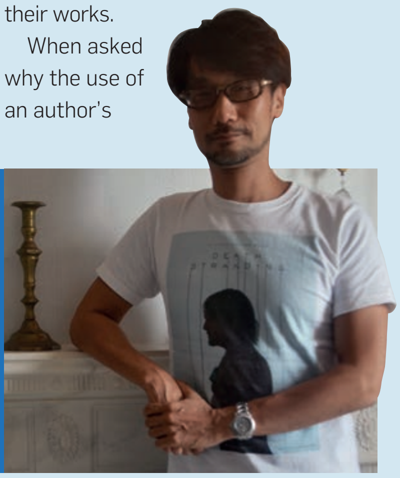
"That's when I discovered the Famicom. As I played and explored the possibilities, I thought that maybe I could tell a good story within this medium. So that's why I started developing games."

Looking back, he describes his plans to make movies as "almost a broken dream", but after three decades in the games industry, it's not one he still intends to pursue.

"I can still say making games is so fun and so difficult, and I wouldn't ever stop," he says.

Ironically, Kojima has become the closest thing to a movie director the games industry has. Not only are his titles rife with the influences of cinema, but the man himself has reached a similar status to iconic directors such as Steven Spielberg, James Cameron and Quentin Tarantino – visionaries whose names are as well-known as their works.

When asked why the use of an author's name is less common in our industry that that of Hollywood, he retorts that the familiar words 'A Hideo Kojima Game' can actually limit a title's appeal – and even movie makers are discovering this.



"In the old days, you had an Alfred Hitchcock movie, a Carpenter movie, because there was a very strong sense of authorship," he says. "You knew that director, and because of that you would go see his film. I don't think that applies now as much as it used to. Of course you still have Spielberg, Cameron and people like that, but those guys are a league of their own.

"Getting author names in front is not in line with the marketing mentality – it's almost something that gets in the way. It's the same situation for games: you don't see many names on games because it gets in the way of marketing.

"If you put the Spielberg name or my name on a product, only fans of that author will watch or play it – and that's not what marketing wants."

Of course, it was only prudent to secure his name for the new studio. When starting from scratch, creators need something familiar to draw in fans, to assure them that Kojima Productions is not dead and gone.

"The situation we're in is a little different," he adds. "We're kind of taking the approach where we want people that know us and like our games to enjoy and play them. That's the focus."

However, Kojima believes there will one day be a place for authorship in the games industry, and that we're seeing this not from triple-A blockbusters but from the indie scene. One-man studios such as *Her Story* creator Sam Barlow and *Thomas Was Alone* dev Mike Bithell offer a sign of things to come.

"Hopefully we'll see a time where indies make a name for themselves and find success, causing a big publisher to seek them out," says Kojima. "In movies, new talent is scouted and chosen to make the next *Star Wars* or *Aliens*. In future, I hope we'll have a parallel for that in games."

It's the indie ideal that Kojima is keen to explore. His new studio may have the support of an industry behemoth and aim to stand shoulder-to-shoulder with the leaders of triple-A, but the small team, more open structure and a desire to remain independent should leave it free to experiment.

"That concept behind *Death Stranding* is something I think would be completely new to games," Kojima teases. "I want to make a difference. I want to make the game that changes the landscape." ■

ESPORTS INDUSTRY AWARDS

2016

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Games and Digital Recruitment

Congratulations to all of this year's winners at the Develop Awards

For over 25 years we've helped many of you find the right career paths in the games industry, from juniors and graduates up to studio heads and directors.

If you'd like a chat about studio hiring, working with the best people, graduate recruitment, or even your own career options, we'd love to hear from you.

Well done also to Yan Knoop & Sam Bang!
Winners of Search For A Star 2016,
our graduate game dev talent competition.

aswift.com gradsingames.com

Art by Aron Visciglia, University of Hertfordshire
Search For A Star Art 2016 Finalist

ESPORTS INDUSTRY AWARDS: FINALISTS REVEALED

Our upcoming event will celebrate excellence in the burgeoning professional gaming industry.

The eSports Industry Awards 2016 will take place on Monday, November 21st at The Brewery in London.

Hosted by games industry commentator and presenter Julia Hardy and *The Gadget Show*'s Jason Bradbury, over 600 of the industry's leading figures will gather to celebrate achievements and network with each other – and the event will be streamed to the world live on the night.

Now, the first set of finalists have been revealed. More finalists may be added in the coming months as seasons and events unfold.

Finalists in the remaining categories – 2016 Broadcaster of the year, Best Live Event 2016, Console Player of the Year, eSports Personality of the Year, eSports Rookie of the Year, eSports Team of the Year, PC Player of the Year, UK eSports Player of the Year – will be announced at a later date.

An international judging panel consisting of respected professionals from a cross-section of the eSports industry including ex-players, media and broadcasters will then determine the overall winners, with some being open to public voting later in the year.

The eSports Industry Awards 2016 has already received the backing of Now TV, Twitch and Gfinity. If you are interested in partnering with the event, contact **connor.tallon@esportsindustryawards.com**.

For any other information, contact **andrew.wooden@esportsindustryawards.com**.

eSports Pro website launches this September

Develop and *MCV* owner NewBay Media will launch a new B2B website dedicated entirely to eSports.

eSports Pro started as a newsletter distributed via the *MCV* website in February 2015, but from this September will spin out to become its own product.

Following this launch and the eSports Industry Awards in November, NewBay's inaugural Future Games Summit will feature an entire day dedicated to competitive gaming.

"Since we debuted the eSports Pro newsletter in 2015, the reaction from our readers has been emphatic," said content director Andrew Wooden.

"With eSports Pro, the eSports Industry Awards and the Future Games Summit, NewBay will establish itself as the home for the global eSports industry." ■

AND THE FINALISTS ARE...

Best eSports Coverage Website 2016
GosuGamers
HLTV.org
Dexerto
ESPN
PC Gamer
Aftonbladet E-sport
Yahoo Esports
Red Bull eSports
The Score eSports
The Daily Dot
Team Liquid
The eSports Observer
Slingshot eSports

Best Hardware Provider
Intel
SteelSeries
BenQ
Creative
Logitech G
Plantronics Gaming
Astro Gaming
Scuf Gaming
AMD
Asus ROG
MSI
Razer
HyperX
Alienware
HP
Acer

Best Streaming Platform
Twitch
YouTube
Azubu
MLG.tv
Hitbox

eSports Commercial Partner of the Year
G2A
Newegg
Intel
Turtle Beach Europe
AlphaDraft
HTC
Monster
DXRacer
Red Bull
Anheuser-Busch InBev

eSports Game of the Year
CS:GO – Valve
League of Legends – Riot Games
Dota 2 – Valve
StarCraft II – Blizzard Entertainment
Call of Duty – Activision
Smite – Hi-Rez Studios
Halo – Microsoft
Heroes of the Storm – Blizzard Entertainment
Overwatch – Blizzard Entertainment
Rocket League – Psyonix
Super Smash Bros – Nintendo
Street Fighter V – Capcom

eSports Journalist of the Year
Richard Lewis
Duncan Shields
Jacob Wolf
Tyler Erzberger
Chris Higgins
Philippa Warr
Chris Thursten

eSports Photographer of the Year
Joe Brady
Stephanie Lindgren
Helena Kristiansson
Robert Paul
Adela Sznajder

eSports Publisher of the Year
Valve Corporation
Activision
Blizzard Entertainment
Ubisoft
EA
Microsoft
Capcom
Nintendo
Sony Computer Entertainment
Codemasters
Psyonix
Riot Games

New eSports Game of the Year
Rocket League – Psyonix
Overwatch – Blizzard Entertainment
Vainglory – Super Evil Megacorp
Street Fighter V – Capcom
FIFA 16 – EA

Streamer of the Year
Spencer FC
Steel
Lirik
Ali A
KSI
PhantomL0rd
Sodapoppin
Michael "Imaqtpie" Santana

AT A GLANCE

AUGUST 2ND

Batman: The Telltale Series

Don't shoot Bruce Wayne's parents – Batman will remember that.

AUGUST 5TH

Suicide Squad

You know, like the Avengers but meaner (and with worse dress sense).

AUGUST 10TH

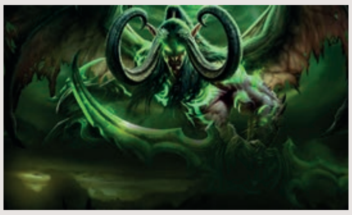
No Man's Sky

Hello Games' vast space exploration title finally blasts off on PC and PS4.

AUGUST 29TH

UK Bank Holiday

After weeks of ice cream, tennis and political turmoil, the UK takes a break.



AUGUST 30TH

World of Warcraft: Legion

The sixth expansion for Blizzard's seminal MMO universe comes to PC.

DIARY DATES

GDC EUROPE

August 15th to 16th
Cologne, Germany
gdceurope.com

AUGUST

Edugaming Conference
August 1st to 2nd
Schnecksville, US
edugamingconference.com

GamesBeat
August 1st to 3rd
Rancho Palos Verdes, US
bit.ly/2ab5w1v

DiGRA / FDG 2016
August 1st to 6th
Dundee, UK
digra-fdg2016.org

Christian Game Devs Conference
August 4th to 6th
Portland, US
cgdc.org

Respawn
August 15th to 16th
Cologne, Germany
respawngathering.com

CEDEC
August 24th to 26th
Yokohama, Japan
cedec.cesa.or.jp/2016/koubo/en

Boston GameLoop
August 27th
Cambridge, US
bostongameloop.com

PAX Dev
August 31st to September 1st
Seattle, US
dev.paxsite.com

EVENT SPOTLIGHT

GAMESCOM

Where: Kölnmesse, Cologne, Germany
When: August 17th to 21st
What: Europe's biggest games fair returns for another week of major announcements, networking events and its expo, attended by approximately 350,000 visitors.
www.gamescom-cologne.com

COMING SOON

DEVELOP #175

SEPTEMBER 2016: THE ENGINES ISSUE

The core of every game, we dive into the current offering of free and subscription-based engines available to devs. We'll also be asking work-for-hire experts for their advice on inking contracts and collaborating on major projects. Plus, a look at effective – and secure – version management.

DEVELOP #176

OCTOBER 2016: THE VR ISSUE

We dedicate the entire magazine to the hottest topic of the moment (and last year, and the year before that): VR. Experts working in the emerging medium offer their insight into how virtual reality is impacting game design, and the tools and engines powering the innovative sector.

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Congratulations to all the finalists. It's been another amazing year for our industry!

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INFLUENCING THE INFLUENCERS

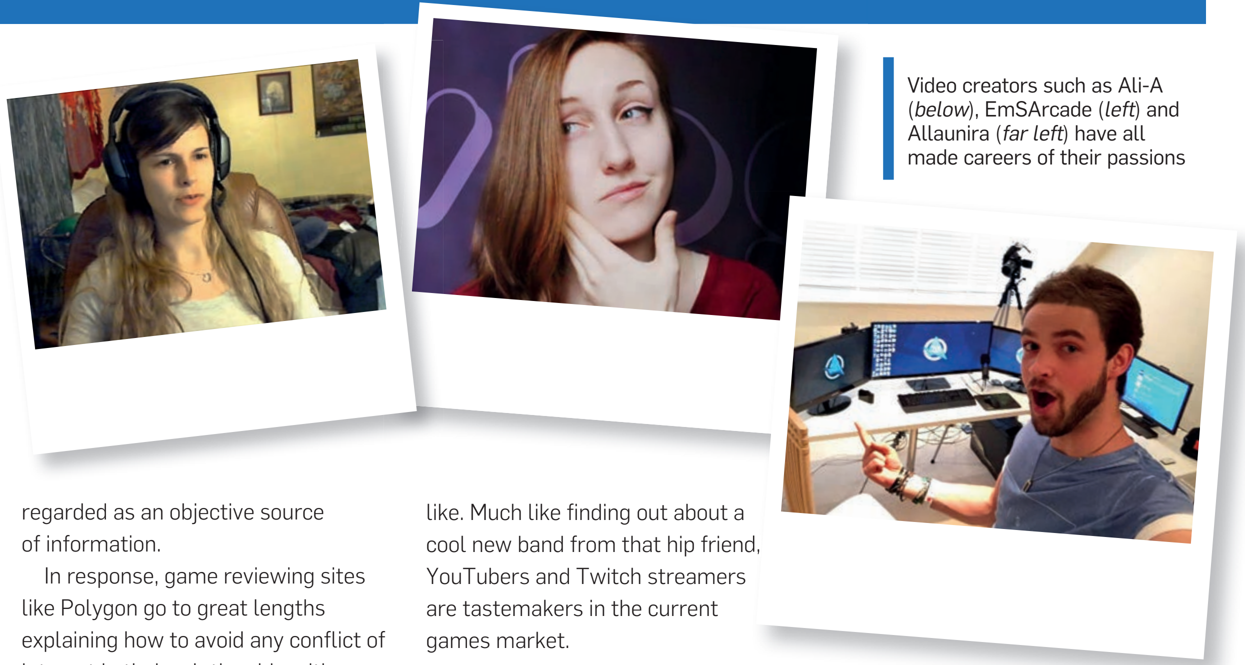
Joost van Dreunen discusses the growing impact of YouTubers and Twitch streamers, and considers the implications of turning a hobby into a business

Recently, YouTuber PewDiePie faced a slew of merciless headlines implying that he was involved in taking money to promote certain games. While he did receive payment, he also disclosed that fact. It is the apparent realisation that publishers are sponsoring well-known live streamers and YouTubers that is surprising for fans.

Watching other people play online is a relatively new phenomenon to the games industry, but it has managed to grow rapidly. Today, 486 million people watch others play games on YouTube and Twitch. It's a no-brainer for consumers: getting to see a game before spending £45 on it is a great way to avoid buyer's remorse. On a deeper level, video gaming content has managed to spawn a community or sorts, allowing individuals to connect to a larger group of people who share and enjoy the same things they do.

Publishers, in their effort to sell as many copies of a game as possible, will try to exploit any way possible to get their games in front of audiences. In the world of product-based game publishing this practice was fully integrated. Publishers have long relied on magazines and official reviewers to promote their games.

The role of gatekeepers is a precarious one. In 2012, celebrity reviewer Geoff Keighley found himself surrounded by bags of chips and bottles of pop as he attempted to give a well-meaning review of *Halo*. Audiences and industry alike immediately cried out, saying that the nefarious influence from advertisers had reached a point where Geoff could no longer be regarded as an objective source of information.



Video creators such as Ali-A (*below*), EmSArcade (*left*) and Allaunira (*far left*) have all made careers of their passions

In response, game reviewing sites like Polygon go to great lengths explaining how to avoid any conflict of interest in their relationship with publishers. But now that audiences have moved online to download and discuss their games, publishers seek to influence the opinion leaders in online gamer communities.

A MATTER OF TASTE

Digitalisation has, among other things, lowered the technical barriers to entry, thereby facilitating a slew of titles coming onto the market. The problem that consumers face here is one less about price, and more about the allocation of time.

In a market where we find the combination of low capital investment and demand uncertainty, like mobile and PC, companies respond with overproduction. On the iOS App Store, Google Play and Steam there are thousands of indie developers willing to sell their games at a low rate or even give them away for free.

The role of influencers in this type of market is to draw people's attention to what they themselves like or don't like. Much like finding out about a cool new band from that hip friend, YouTubers and Twitch streamers are tastemakers in the current games market.

> **"The accusation that YouTubers are inauthentic, that they are simply a mouthpiece for whoever pays them, is to misunderstand them.**

Certainly, this new model of audiences talking back is not without problems. For one, audience validity is an issue. In instances where advertisements are a natural part of the programming, it can be tricky to get a sense of the 'real' audience. The results of some of our early testing on Twitch audiences, for instance, showed that some streamers have 50 to 90 per cent 'viewing bots', fake accounts that are computer-generated to push a channel to the top of the rankings.

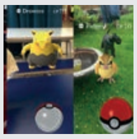
The accusation that YouTubers are inauthentic, that they are simply a mouthpiece for whoever pays them, is to misunderstand them. This is a generation that has grown up in the midst of a saturated and fully matured media environment, and it has flocked to YouTube and Twitch to have its own voice.

All of us, in one way or another, seek to see ourselves reflected in the media we consume. For many, what started as a fun side-project has now become a way to earn a living. But in the process of professionalising something may get lost. Let's hope it won't.

You can read more about attracting influencers in our feature 'Crowd Control', which begins on page 33. ■

Joost van Dreunen is co-founder and CEO of SuperData Research
www.superdataresearch.com

MEANWHILE ON DEVELOP-ONLINE.NET



Legal challenges for devs in the augmented reality space

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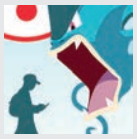

Are developers responsible for their audience?

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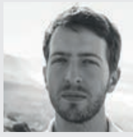

Why you should consider making your studio remote (and how you can get started)

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DEVELOPER'S BLOCK

Suddenly find yourself in a mental rut? Don't panic: **Shahid Ahmad** is here to talk developers through his 12-step process for solving any creative problem

I recently suffered from the worst bout of 'game designer's block' I've ever had. This fed into my impostor syndrome and I got stuck. Reaching out to my peers, I was starkly reminded that the same processes that work for code problems also work for design troubles.

Here are some of my strategies for tackling creative blocks. I've found they work for just as well for design as they do for programming. The important thing is to have a process in place, written down, and to apply it to any creative problem you have – and to start immediately. If you don't start immediately, you feed fear with its favourite fuel: time.

1. Step away from the computer. I see the computer like a canvas and the edge of my monitor as the frame. Frames have a profound effect on the way you think. If your thinking is blocked, you need a new frame – and reality is a good one. Don't just take short breaks; take at least a day off a week; not just from work, but from any computing device. This will reset your frame for a while and allow your subconscious mind to replenish your conscious mind with fresh ideas.

2. Go for a walk, preferably in nature. If that's a stretch, ground yourself by walking barefoot on the grass. Some suggest doing this at dawn or dusk, because these are usually peaceful times.

3. Meditate by simply noticing your breath. Start with just noticing yourself inhaling, then exhaling for one breath. Then later in the day, try a few breaths. Eventually, you will be able to build this up to 20 minutes. The objective is not to stop thinking, but to bring your thinking under your conscious control.

4. Write your problem down. Jot down the consequences, worst cases, best cases – all the scenarios and outcomes you can think of. Then write down what you're going to do about it and do it. Immediately. Impostor syndrome can be tackled much more easily when you write things down. Ask lots of questions on paper. You'll find that the answer to 'I'm shit' is: 'Actually, that's not objectively true. Here are several reasons why I'm not shit, and here are some successes I've experienced.'

5. Do a mind map. You can use software if you like, but it's hard to beat the physicality of paper and coloured pens.

6. Go away for a day or two and get physical distance from your problem. Go somewhere new. Nature is great, but new is best because your conscious mind will be so flooded with new inputs that it will be too busy to screw you up.

> The important thing is to know that you are going to get blocked at some point and have a plan to address it.

7. Ask your subconscious, or God, or the universe, or whatever you're comfortable with, for a solution. State a question or assert a request clearly. Then trust and have faith in the solution arriving in a 'Eureka' moment. It always does. Write it down immediately. If you don't, it will go. I use dictaphones, drafts on my iPhone, waiter pads – anything.

8. Exercise. Swim, lift weights, get your blood pumping and your body working. Try yoga, pilates or just some stretching. The aim here is to get out of your head and into your body.

9. Walk and talk with a friend. Decades ago, I'd go for a ten-mile walk with a friend and we'd just talk. It was remarkably therapeutic.

10. Try cold therapy. Cold showers also help with mild depression, which sometimes goes hand in hand with creative blocks. It sounds barbaric, but it doesn't take long to get used to it. Five minutes under cold water has a remarkable effect on your mood and your energy.

11. Experiment with a different medium. It doesn't matter if you're good or not. Paint, draw, play or compose some music, dance or write a journal. I taught myself to make games and play bass at the same time, with my bass constantly in my lap. Whenever I needed to think, or wait for the computer to build something, I'd practice. Now, I can code and play bass.

12. Make sure you're sleeping enough. If you don't, your body will produce a ton of cortisol – the stress hormone – and you will get sick more quickly because your body won't be repairing itself. My phone or tablet doesn't come to the bedroom with me; we have blackout blinds and if I think I might get disturbed with sound, I wear earplugs. Improving sleep hygiene is probably the single biggest impact life hack you can make.

There are plenty of other things you can try, but the important thing is to know that you are going to get blocked at some point and have a plan to address it, written down in advance. ■

Shahid Ahmad is an independent developer, and previously head of strategic content at SCEE. You can find him on Twitter at **@shahidkamal**

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OH, WHAT A NIGHT
All the winners from this year's Develop Awards
P22

PRIDE OF THE INDUSTRY
We talk to ex-Lionhead devs following the studio's closure
P28

CROWD FORMATION
Influencers reveal how devs can capture their attention
P33

SEEING RED: THE RISE OF CD PROJEKT

The Witcher III: Wild Hunt developer CD Projekt Red took home four prizes from this year's Develop Awards, including the coveted Studio of the Year title. Game director Konrad Tomaszkiewicz tells **James Batchelor** how the team has evolved with every game it releases

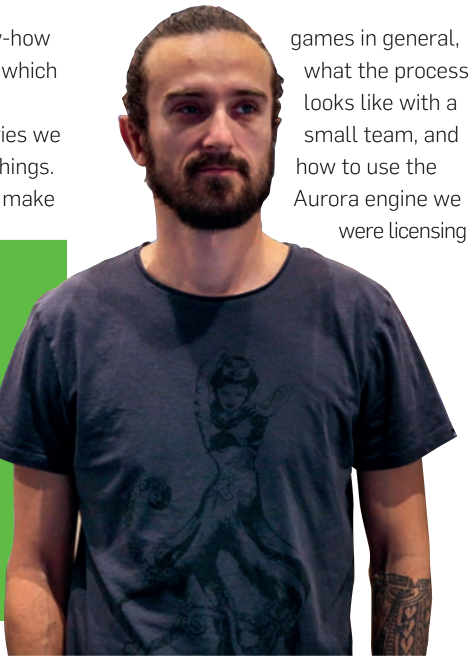
T*he Witcher* series began as a PC exclusive, and has eventually become more console-centric. Has the shift to console changed your approach to development?

The Witcher was PC exclusive not because we decided it was going to be, but rather because as a studio we always choose to take on new endeavors one step at a time. Back then, simultaneously creating a game like *The Witcher* for all major platforms was something that only the biggest studios could afford, having huge budgets and access to resources at their disposal. When we released *The Witcher* in 2007, we hardly knew how to make games – let alone have the budget and know-how to develop a game for consoles, which are a different thing entirely.

But with each game in the series we released we kept learning new things. With *The Witcher*, it was how to make games in general, what the process looks like with a small team, and how to use the Aurora engine we were licensing from BioWare at the time. We ended up finishing the game five years later with a team of around 80 people.

When development on *The Witcher 2: Assassins of Kings* started, we had the knowledge needed to create a game and we could use it to create a bigger version of that which made the original a success. But we didn't want to just make a bigger version of the original game. We wanted to take it up a notch, because that's just in our nature. So, we created our own RedEngine and made a game that we took in a different direction, focusing on storytelling, giving players an opportunity to make tough choices and dealing with the consequences.

> **When we released The Witcher in 2007, we hardly knew how to make games.**
> *Konrad Tomaszkiewicz, CD Projekt Red*



Staying true to our nature, *The Witcher III: Wild Hunt* was more than

just everything we learned up to this point, featuring a huge living and breathing open world.

How else did the studio and your practices evolve over the series? Did growing to a larger team change the atmosphere?

Tremendously. As we were finishing up development on *The Witcher III*, there were already 350 of us on board and we opened a second studio in Cracow. We're still growing, expecting a total of 500 people to be under the CD Projekt Red banner in the not too distant future.

Obviously a lot of things had to change. Growing a company from 15 people to 500 means you need to rethink a lot of things about optimising the workflow to account for bigger numbers.

Right now we're still working through a transitional period and learning a lot of things, which is to be expected. But regardless of how big we end up growing in the future and how our workflow changes as a result, our identity and ideals we have worked hard to establish over the years will not.

***The Witcher* was a relatively unknown IP – at least, globally – before CD Projekt's games. Are there opportunities out there for developers to make their name with little-known franchises?**

The *Witcher* books by Andrzej Sapkowski have been successful in central and eastern Europe and even more so in Poland, where fans of the genre often see them as equal or above Tolkien's works.

We want to create the best RPGs and give gamers what they expect, which sometimes sees us doing a lot of things that have been long forgotten or are not common practices in the industry anymore, but that's just the way we are. Having a goal, a good idea, and lots of hard work can take you very far – we're a good example of that.

> **If gameplay is there to help tell the story, it can't be hindering it at the same time.**
>
> *Konrad Tomaszkiewicz, CD Projekt Red*

What impact have the games had on the *Witcher* franchise as a whole?

The success of the *Witcher* games definitely brought the universe and books created by Mr. Sapkowski out into the spotlight and proved that video games can help books reach a bigger audience.

At the same time, many people who played *The Witcher* read the books, but never played a game before, which shows the relationship goes both ways.

***The Witcher III* was delayed several times in order to polish. Why was this so important?**

Delays are always painful for everyone on the team and the decisions behind them are often influenced by a number of equally painful factors the world will never learn about. There are no golden rules to follow that help avoid delays and turn them into a guaranteed success. Were they important for us, though? You wouldn't be asking me this question if it wasn't.

CD Projekt has said *The Witcher III*'s success proves devs don't need to annualise franchises. Are yearly releases holding the industry back from the chance to evolve the games medium?

I don't know, and the reason I don't is because we fought hard to become an independent studio that can freely decide the business and creative direction it wants to take. We always wanted to have full creative control over the titles we're creating.

Our attitude for making games has always been to challenge ourselves, create awesome things and innovate. Doing this takes time. But there are a lot of things and decisions that happen that we might not know about. I'd like to see other developers always work on games that allow them to artistically fulfill themselves.

CD Projekt countered player cycnicism over DLC with more than a dozen free add-ons for *The Witcher III*. How would you like to see the industry handle DLC – free or paid – in the future?

We believe in the old school way of doing additional content, back when developers added new maps and weapons in patches without even considering asking gamers to pay for that kind of stuff. But that was then, and this is now.

Game development has become significantly more expensive than it used to be, so to a degree I can relate with developers charging extra for their additional work – as long as you don't make gamers feel like they're being duped. Sure, creating an additional set of hairstyles for Geralt or outfits for his companions is a big deal, but not a huge expense when you look at it through the scope of the whole project. We believe that gamers are entitled to small, meaningful things like this as a thank you for spending their hard-earned money on the game.

Hearts of Stone and *Blood & Wine* offer an additional 50 hours of epic adventures and quests combined, plus a whole new area to explore and new items and gameplay mechanics. Keeping in mind that creating this additional content will be an expense from the development side of thing, we still wanted the price to be fair for the content the expansions offer. We believe this is something that we managed to achieve and this is how we would like the industry to look like.

The Witcher III features side quests with as much meaningful narrative as the main campaign

How do you balance building an open world with plenty for players to explore while still trying to tell a narrative?
Story is the most important element of the game. Not just the central arc, because *The Witcher III* has many more stories to tell through side quests – some as deep and meaningful as the main one.

How do we balance that against a huge open world? We make it the central element. Whether it's by wrapping it around hubs, making the dialogues cinematically push the story forward, or small things like giving gamers a recap of the most recent events on loading screens. Gameplay is a tool we create to help tell the story. If it's there to help tell the story, it can't be hindering it at the same time.

What are the biggest challenges in creating a title that appeals to the mainstream, while still pleasing hardcore RPG fans?
Making a title that as many gamers as possible will enjoy is the biggest challenge in and of itself, but nothing is impossible as long as you work hard enough. So that's what we do. We listen to players and work very hard to create a title that all of them will enjoy.

There are gamers who want to experience every detail of a story, and those who don't need to focus on all of its nooks and crannies. So during dialogues, we distinguish between the options that progress the story and those that provide additional details.

What gamers want has always been key to our philosophy as a studio but, at the same time, each and every one of the games we made was something that we ourselves wanted to make.

What learnings are you bringing from *The Witcher III* into *Cyberpunk 2077*?
We made a huge game and launched it simultaneously for all major platforms; it's amazing to look back at all the hard work we've put to achieve that. For us, that experience is the most important learning we'll be taking with us to *Cyberpunk 2077* and wherever else the future takes us.

You've previously said you hope to model the studio on Rockstar. What's the next step towards that?
Work very hard and very humbly on our next game. Never stop listening to what gamers want. And always be a rebel. ■

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THE develop AWARDS 2016

AND THE WINNERS ARE...

Hundreds of developers flocked to Brighton last month for this year's prestigious Develop Awards. Here we present the winners in full, as well as their reactions and highlights from the night

HIDEO KOJIMA

Winner of Development Legend

“Last year was a big turning point in my life. I'm not that young anymore so some people advised me to retire and take it easy – but an even bigger amount of people told me they want to play more games of mine and were very supportive. So I took the decision I should keep making games while I live.

In order to be able to make games freely, I made my own studio towards the end of the year. In the six months since then I've been doing many things in parallel: founding the company, finding facilities, recruiting people, evaluating technology, planning our next project. I've been extremely busy but at the same time, it's been an extremely satisfying task.

We finally have our new offices, and for that new office I would really like to have some trophies at the front entrance but I don't have anything at the moment, I'm starting from zero, so I'm truly happy to be receiving this award tonight.

I might be starting my trophy collection from zero, but I'm not starting from zero with game-making. I have 30 years of games development [experience] up to this point and I also have your kind support. From now on I want to keep looking to the future and keep making games.”

AMIQUS

Winner of Recruiter

“I've read there are some awards where they only let you have five words for your acceptance speech, so here goes: clients, candidates, team – all superheroes.”

Liz Prince, Business Manager

CD PROJEKT RED

Winner of Use of a Licence or IP (*The Witcher III: Wild Hunt*), Visual Arts (*The Witcher III: Wild Hunt*), Independent Studio – Presented by Unity, and Studio of the Year – Presented by Epic Games

“Getting recognised for the work you're doing always feels special. I'd like to thank our amazing fans for their continued support over the years, everyone at CD Projekt Red for their hard work and, of course, thank *Develop* for these amazing awards. It's a real honor.”

Konrad Tomaszkiewicz, Game Director

SPACE APE GAMES

Winner of New IP: Mobile (*Rival Kingdoms*)

“We were pretty unprepared for this. Our game came out just after last year's Develop Awards. It's great, you should totally play it. Our secret? Hire people you like, people you trust, your friends. As long as you do that, you're going to be just fine.”

Tia Mooney, QA Engineer

“We're Space Ape Games. We're going to keep making better and better games. Watch out for us next year.”

Vicki Wong, Lead Artist

SAM BARLOW

Winner of New IP: Mobile (*Her Story*), Use of Narrative (*Her Story*) and Micro Studio

"Thank you so much for these awards. Micro studios are the coolest – they're doing the most interesting work right now. I cut my teeth doing console games with bigger studios, but when I saw the work being done by Simogo, Cardboard Computer and Inkle I was so jealous, I knew I had to get in on the action. So it's amazing to be honored like this. That said, making a game entirely on my own isn't something I want to do more than once.

"Winning New IP means a lot to me – prior to *Her Story*, every commercial game I worked on that was actually released was someone else's IP so *Her Story* was the first time I could make a game without pissing off an established fanbase. Now it's worked and I have a fanbase all of my own to piss off.

"The Narrative award is the big one for me. I'm so grateful to win this and humbled to be alongside the other finalists in this category. There is nothing better to do with a game than tell a story, and I think we should be pushing hard to tell better stories: new, fresh tales about characters and situations that speak to a broad, human experience. *Her Story* is my small contribution to that. Let's keep pushing and invite people from that broader experience to design and create games that tell their stories – we might just become the important new medium we all think we are."

AUDIOKINETIC

Winner of Design & Creativity Tool (Wwise)

"On behalf of the Audiokinetic team, thank you. This really means a lot. We do everything we can to enhance this piece of software so you guys can make the best video games. Keep supporting us, and we'll definitely enhance it even more in the future."

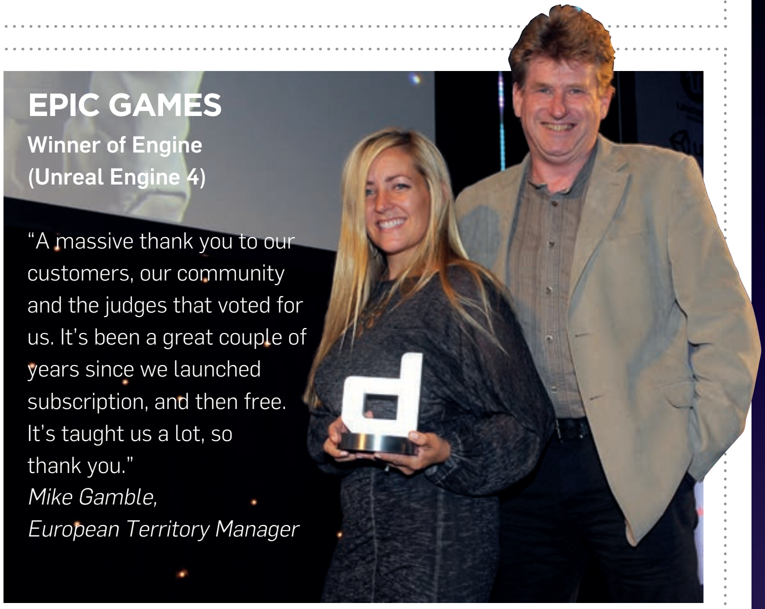
Thomas Bärtschi, Developer Relations

THE CHINESE ROOM

Winner of Audio Accomplishment (*Everybody's Gone To The Rapture*)

I'd like to say a huge thank you to the team. They're extraordinary. I think The Chinese Room shows that if you treat people with kindness and compassion, and let them go home to see their families, it's possible to make really beautiful games.

Jessica Curry, Composer and Co-Founder



EPIC GAMES

Winner of Engine (Unreal Engine 4)

"A massive thank you to our customers, our community and the judges that voted for us. It's been a great couple of years since we launched subscription, and then free. It's taught us a lot, so thank you."

Mike Gamble, European Territory Manager

PERFORCE

Winner of Production Tool (Perforce)

The games industry is where we started. You've been very loyal to us over the years. We appreciate that. We will always remain loyal to the games industry. We've got a lot planned for the next few years.

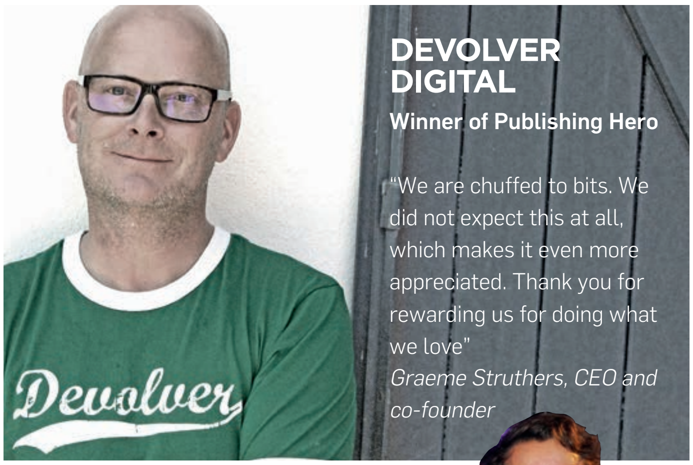
Konrad Litwin, Managing Director – International

SIDE

Winner of Creative Outsourcer: Audio (*The Witcher III: Wild Hunt*)

“Thank you on behalf of all the team at Side. It's always nice to win a peer-voted award. It's been nearly two and a half years for us working on the voice production for *The Witcher III* – 650,000 words of dialogue. A big shout out to all the actors, our lead voice director Kate Saxon, to the team at CD Projekt and – last not but least – Sini Downing, who's been managing the whole process.”

Andy Emery, Managing Director



DEVOLVER DIGITAL

Winner of Publishing Hero

"We are chuffed to bits. We did not expect this at all, which makes it even more appreciated. Thank you for rewarding us for doing what we love"

Graeme Struthers, CEO and co-founder

ROCKSTEADY

Winner of In-House Studio – Presented by Testronic

“The *Arkham* games have received a lot of recognition and that's fantastic, but to receive recognition as a studio is really special. Everyone at Rocksteady works so hard together and stay focused on creating the best games we possibly can, so to have recognition of that is very, very special to us. Thanks very much.”

Dax Ginn, Brand Marketing Producer

TRIANGULAR PIXELS

Winner of Independent Studio

"A big thanks to our friends, half of who seem to be in the audience tonight, and a massive thank you to to the VR hardware manufacturers who actually believed in us and helped us to actually do this. The biggest thanks goes to my future husband [John Campbell]."

Katie Goode, Creative Director

PLAYER RESEARCH

Winner of Services

“We're very pleased indeed – you don't know how much this means. Thanks to all the judges and all the wonderful games developers that we work with.”

Graham McAllister, Director

TESTOLOGY

Winner of QA & Localisation

"Testology was delighted to win the Develop Award for Best QA and Localisation in the Services category. To win this award on the night and for the third consecutive year was amazing and testament to the high quality service Testology provides and how we keep at the forefront of QA."

Andy Robson, Managing Director

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Below, left to right: Former Lionhead devs Craig Oman, Charlton Edwards, Jonny Hopper, Mike Green, Stuart Whyte and Mike McCarthy

LIFE AFTER LIONHEAD

In April, one of the UK's most iconic developers closed its doors for the last time. After almost 20 years and the creation of beloved series including Fable, Black & White and The Movies, Lionhead was no more. Four months on, **Matthew Jarvis** catches up with former members of the studio

What have you been up to since Lionhead closed?
Mike McCarthy, ex-lead concept artist for Fable: I've been lucky enough to have been asked by a few groups of people to do some concepting for them. I've literally been hopping from one little piece of freelance work to another.

Charlton Edwards, former level designer for the Fable series: I've been working on a Kickstarter campaign which we haven't launched yet. A lot of the time's been spent spending my redundancy money on virtual reality games and escaping actual reality. Eventually we'll get round to launching a Kickstarter and if that fails, it's back to proper job time.

Jonny Hopper, ex-lead creative engineer on the incubation team: I actually left before Lionhead was closed, about a year ago. So it's not off the back of this. But we're still very much based in Guildford and we have some ex-Lionhead people working for us.

Mike Green, former designer: I left sort of two years before the studio was sunsetted – that's the correct word, isn't it? I've done a few things; I worked with Jonny at another company called Ambient, then went to work at a company called Improbable, and now I'm back with Jonny and other friends, which is great, in Guildford again, which is cool.

> Lionhead was seen as a big, almost indestructible thing.
> *Mike McCarthy*

Stuart Whyte, ex-studio director: I've been building pitches for two separate games, I've been talking with lots of publishers, even some agents. Just basically talking with lots of people and exploring new opportunities whether it's been around start-ups or a potential big new role at another company.

Craig Oman, former senior producer: I'm now CEO at Flaming Fowl Studios. We're trying to make *Fable Fortune*, which is also a title that was in development at Lionhead. Thankfully, we're still doing it now.

The closure of Lionhead wasn't just a shock to the British development community, but to the industry around the globe. What does the studio's demise signal about the current health of the UK development sector?
Hopper: It certainly brought to light how small and tight-knit the Guildford community is, because Guildford isn't a big town and Lionhead was one of the, if not the, biggest games studios here. It was just a very weird thing to suddenly realise that there's a whole bunch of people, many of your mates, suddenly just done and looking for work. That's kind of scary and quite brutal.

McCarthy: I was there the whole time since I joined, but there were people who had come to Lionhead and gone away again, come back again... Lionhead was seen as a big, almost indestructible thing. Like, no matter what, there would always be a Lionhead, whether it contracts or expands. That was certainly the big surprise within the studio – that it didn't just contract or change course.

Oman: We've always been used to, especially in the UK, a big studio closing down and then lots of other studios forming up around them. That seemed to happen constantly, but Lionhead was the one still going, that was always there.

Whyte: It's just a reflection of the industry being very much a hit-driven business. Certainly, the console market changes and investment gets moved around all the time. Lionhead was just a reflection of Microsoft changing its focus, unfortunately.

Most, if not all, of you have moved from the world of big-budget triple-A to indie studios and smaller teams following Lionhead's closure. What has that shift been like for you?
Edwards: I was at Lionhead for the 17 years since I started, 14 full-time. It was like home – in fact, I lived there for nine days in a row once and nobody knew it...

Various: We did. (*They all laugh.*)

Edwards: ...so when it closed there was the initial shock, then a mourning period where I just couldn't believe it. Then, the realisation that I've got to try and do something now. We always wanted to do our own little thing but we feel almost lost – we've never done it before, such a small-scale thing, and not had huge teams to rely on and people organising us and people buying us toilet rolls and biscuits and whatever. Now we've got to wipe our own bums and buy our own biscuits.

Hopper: No-one wiped my bum.

Oman: You were on the wrong floor.

Hopper: The way you interact with the wider community is very different when you're at somewhere that's owned by Microsoft and somewhere that's owned by you. Microsoft understandably want to control the message; they don't necessarily automatically trust everybody to have everything in their best interests so you have to jump through hoops. When it's your own thing you basically just say what you want – that's kind of refreshing and quite nice.

Oman: As we've gone through the Kickstarter recently, we took the decision to launch a build out, and that was something we did within a matter of hours. We sat down as a group, talked about it, agreed and did it. I just can't imagine us ever being able to do something that monumental that quickly within an organisation such as Microsoft.

Fable Legends was the latest game Lionhead was working on, but never made it to release

As a developer known for innovation, but also for ambitious mechanics and gameplay elements that didn't always pan out, do you feel that investing in innovation has become rarer among publisher-owned studios?
McCarthy: You're getting a lot of innovation now because you've had a lot of people who have been with big companies and been through places like Lionhead. The natural thing is that it's great being in a big corporation like that, but there is always stuff you want to do. There's always stuff where you think: 'Oh, wouldn't it be great if we could do that instead?' But it's because it's a juggernaut moving forward, you can't get that in, so that gets chucked out the window and sits in people's brains. There's a lot of people around now who are leading studios who have been through that experience, so they bring that innovation and want for innovation to their own projects.

Edwards: Because there's more games than ever and Steam's tight and is just snowballing the great platform for indies and there's more people wanting to get into games, the tools are a lot better these days and things can be turned around quicker, you're seeing more innovation because there's more stuff coming out. Back when I was younger, there wasn't the tools, the education or the companies to go to, there was nothing, but now everybody's got the opportunity. So you find there's just more innovation because of the sheer amount of people and ability to do it.

Hopper: Steam and the App Store are both really hard to make a splash on now because everything is so much 'better'. There are more people and more products to compete against. The publishers can shout the loudest so their games might not necessarily be the best, but they're the ones that everyone buys because they're the ones everyone knows about.

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Oman: It's just marketing. I think that's the big thing we're all going to miss: the marketing support that someone like Microsoft can bring to the table. As a completely independent studio, if you don't get on the main carousel or you don't break into the top sellers, it's so hard to actually get any sort of visibility. That's a big challenge, but you also require less success when you're a smaller studio.

Do you feel that being associated with Lionhead comes with baggage as well as benefits when building a new studio or project?

Green: When I left, I thought being a developer from Lionhead would really help. But there's so many games and talented developers that it's difficult. I sort of feel, over the last couple of years, that actually it's not that I worked at Lionhead for eight years – I no longer feel like that's where I've come from. I've got other things I need to prove now.

Hopper: One's pedigree is always good for proving you're not total crap. You don't generally get hired at somewhere like Lionhead unless you're really good at what you do, so it's an immediate barrier down when you're trying to speak to publishers or investors or whatever. Sometimes I go with 'I worked at Microsoft' because they don't necessary know what Lionhead is but they know what Microsoft is. It's always a positive because it's a big name and they're most likely heard of the products so to be associated with those things always helps.

Whyte: If you just look at the reaction when Lionhead closed, it was very well respected. The majority of the studio felt very proud to work there and be part of it. But who knows? For some of the people in this room or whatever it might just be a small… like Notch, his previous company before he went on to do *Minecraft*.

Edwards: We went blatantly for the people who were mourning *Fable* and Lionhead. Our Kickstarter campaign was essentially: 'From the makers of *Fable*: more *Fable*. Have you missed *Fable*? There's more *Fable* coming.' Then we were discussing whether that was a poisoned chalice or not. Maybe we'll take a lot of the *Fable* words out and be ex-Lionhead and that's it and we don't mention *Fable* again.

McCarthy: Getting to work on all the *Fable* games has been a gift to me. It's been superb, I've loved it and people always want to ask me about it and are very kind about the work we did. On the other hand, in certain circumstances when you're interviewing for other jobs or other companies, basically before they've even looked at my work they're like: 'Yeah, you're the guy that draws wonky medieval stuff, aren't you? Yeah, we're not doing a wonky medieval game.' Literally, that's it. It's almost you're dropped before you get anywhere.

Hopper: We live inside our little game developer bubble. There's not that many games that have reached the cultural zeitgeist. There's obvious ones, but for some reason *Fable* didn't quite break out of that. It didn't become *Minecraft*, *Gears of War*, *Call of Duty* – it was sort of just inside that, just below. You can say 'I worked on *The Movies*' and people are like 'Huh?'

If up-and-coming devs were to look at the life of Lionhead, what would you want them to take away from the studio's legacy?

Edwards: Just put some personality into what you're doing. Don't copy everything else. That's what Lionhead's games had: a personality that was unlike anything else.

Hopper: There was always some humour, it was never super serious, which was good.

Green: I still remember my first or second week at Lionhead working on *Black & White 2*, and just being super pleased when I got home and my wife said: 'What did you do today at work?' I was like: 'I made a giant creature eat a man and then poop him out again.' I'd never said that before on any previous game I'd worked on before.

Oman: The piss-taking in general. I remember doing achievements for *Fable Anniversary* and there was one that was 'Not On Rails', taking the piss out of *Fable: The Journey* and the stuff that had gone on. That's one of the things; the in-jokes and things like that. It was always just that we were making computer games, we're not saving lives or making babies. You can't take it too seriously – it should be fun.

McCarthy: What I really valued about Lionhead is the idea that anybody could make a suggestion and come up with an idea for something. It wasn't like the designers design, the artists draw and the animators animate: it really was a collaborative atmosphere. We did some great stuff doing that.

Whyte: It sounds amazing, but at the end of the day making video games and making good video games is fucking hard work. There were some amazing bits, but it was hard work as well. There was a lot of shit that went on. It was a great place. ■

Former *Black & White 2* designer Mike Green recalls the studio's humour: 'I told my wife I made a giant creature eat a man and then poop him out again. I'd never said that before on any previous game I'd worked on before.'

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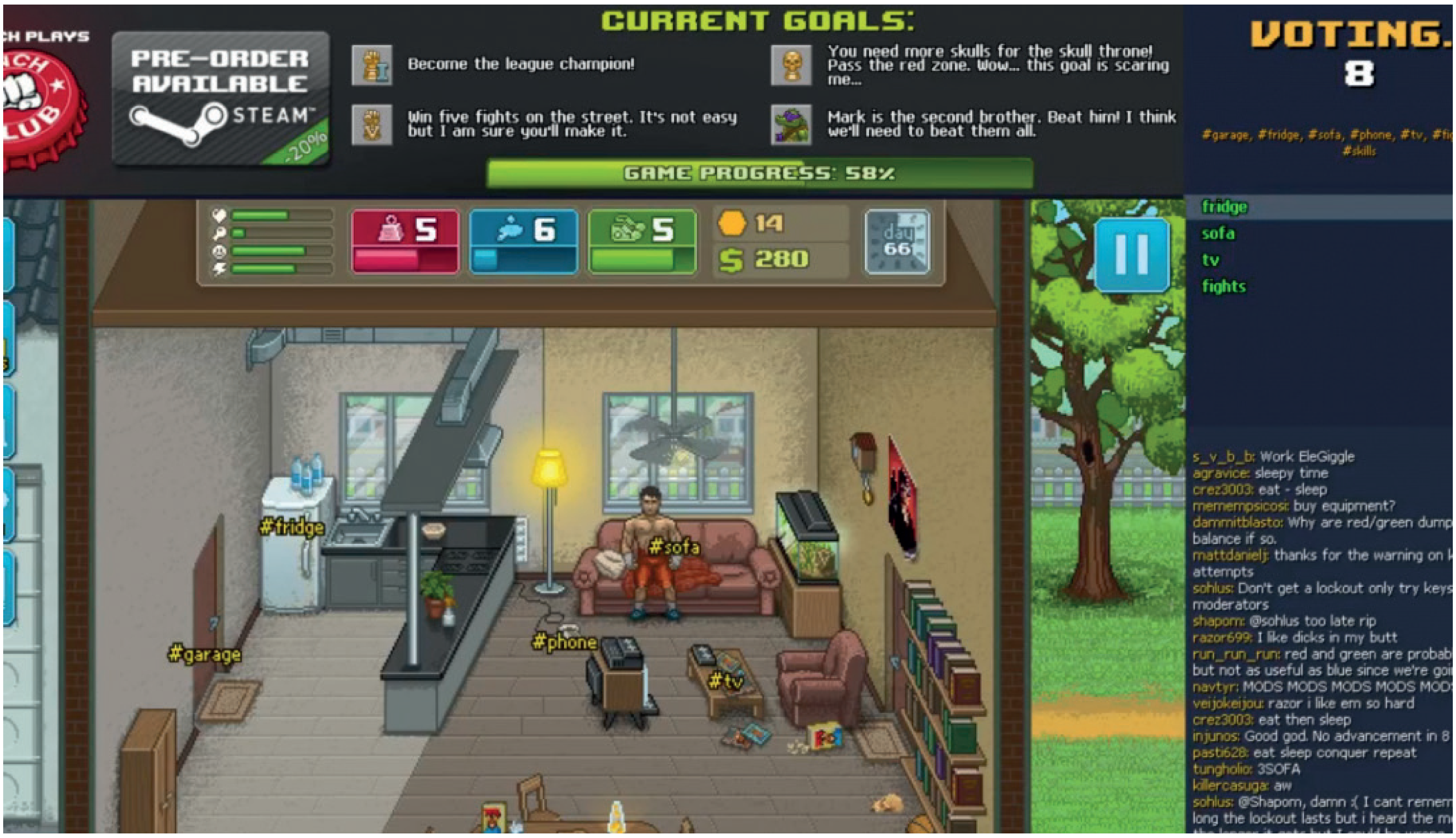

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crez3003: eat - sleep
memempsicosi: buy equipment?
dammitblasto: Why are red/green dump
balance if so.
mattdanielj: thanks for the warning on k
attempts
sohlus: Don't get a lockout only try keys
moderators
shapom: @sohlus too late rip
razor699: I like dicks in my butt
run_run_run: red and green are probab
but not as useful as blue since we're goi
navtyr: MODS MODS MODS MODS MOD
veijokeijou: razor i like em so hard
crez3003: eat then sleep
injunos: Good god. No advancement in 8
pasti628: eat sleep conquer repeat
tungholio: 3SOFA
killercasuga: aw
sohlus: @Shapom, damn :(I cant remem
long the lockout lasts but i heard the m

CROWD **CONTROL**

Matthew Jarvis asks influencers, studios and experts in marketing and PR how devs can get the word out

"Everyone is making games. It's not enough to get noticed."

TinyBuild CEO Alex Nichiporchik knows better than most the power of livestreaming. The studio announced in January that its latest game, *Punch Club*, wouldn't be released on Steam until players had completed an audience-controlled stream of the title on Twitch – a feat accomplished in under two days. Twitch later estimated that referrals from its channels had been responsible for around a quarter of the game's sales.

"You either have to create something absolutely controversial that people can't ignore, something that looks stunning enough, or learn magic tricks and pull out rabbits out of hats," Nichiporchik observes on the battle for notability. "You really need to think outside the box to get your game noticed."

It's a common story, as the indie sector, finally free from the anchor of inaccessible tools and distribution, finds itself sinking under the weight of the sheer number of new creators on-board – leaving those titles that fail to capture an audience quickly and early dragged down by the ship.

"There are no best ways for developers to take," admits marketing and PR freelancer Albert Palka. "They're hard work and dedication. Everybody should be visible on social media. Not only Facebook and Twitter, though; Reddit, Imgur, Snapchat, Vine, Instagram – all these sites are a viable option. It all comes down to whether you have an idea on how to promote your game there.

"For the past few years, the go-to platforms for any developer have been YouTube and Twitch. To succeed there, you must have a playable, bug-free demo."

Wales Interactive PR and community manager Ben Tester agrees: "A big time media outlet or influencer can significantly improve the reach of your audience and, in some cases, be the making of your game.

"You make your own luck, so start early and get your game known in as many places as possible."

Henry Clay, former senior digital PR manager at Activision and now director of Hype Management, insists that working with streamers and video creators is now just as vital as capturing columns of virtual and print space.

"The media landscape has fundamentally changed; when it comes to influencer relations the genie is well and truly out the bottle," he says. "Given these changes, it is harder to engage with audiences using traditional PR and marketing. Influencer relations can get through to key demographics that are otherwise hard to reach. Influencers hold a close relationship with their fans that cannot be replicated through traditional editorial content or advertising."

KEYS TO SUCCESS

To developers, their game is understandably – and rightly – a one-of-a-kind achievement. For influencers and media, however, the opposite is true.

"I get somewhere around 50 games sent to me each month from indie, triple-A and mobile devs," reveals video creator Blitz Kriegsler. "I choose the games that I think will have the best market for picking up new subscribers and the games that I think my viewers will enjoy the most."

With media and influencers looking to identify those games that both deserve to be discussed and boast the right mix of attractive properties needed to capture an audience, how can developers convince them that their title is worthy?

"I prefer the developer to include a few screenshots, a short but informative description, and a key to the game if I need a key to cover it," adds YouTuber and journalist Jupiter Hadley. "Hearing a bit about the developer or the studio tends to make the email a bit more personal in my opinion – I feel like I connect better with the developer if there are one or two lines on them personally or as a studio."

Tom 'Flashgitz' Hinchliffe warns: "A mistake I see a lot of developers make when trying to court influencers is doing a shotgun approach.

"We had a prominent company approach us to make a cartoon for their game. They said how much they 'love' our voice and perspective, then proceeded to give us a design brief that said 'no violence, no swearing, no offensive material' – which is basically our whole shtick. It's about knowing who you're approaching."

YouTuber Alzorath tells devs to "lead with your strongest point and follow that with passion".

"Send us access before release, as releasing our videos and articles before or during the release window is best for us both," he suggests. "While B-roll footage, screenshots and so on are nice, give us time with our hands on the game itself – this will give the most honest, engaging, and advantageous content."

FrozenFoxy says that the benefits of video can be undermined by failing to actually show your title.

"Pictures give me an idea of what the title will be like in style and gameplay," he says. "Videos go above and beyond to show exactly how the game is going to play. If the trailer is only cinematic with no gameplay, it becomes a far harder sell."

Damian 'Kenet' Baran, owner of the GraczWatch channel, agrees that demonstrating gameplay is vital.

"Provide some form of demo or review code," he states. "Gameplay is more important than 1,000 words. Give me a taste of that and, if its fun, everything else will follow. Don't tell me that you are a small team and need my help or you will die or something."

PLATFORM CHANGES

This difference isn't between channels, either – the format on livestreaming sites and produced video can vary as much as their users.

The world's best-known YouTuber, PewDiePie recently saw controversy over his failure to fully flag up sponsored videos about *Middle-earth: Shadow of Mordor*

"Twitch streamers need games that are very easy to play while talking to your audience," Nichiporchik observes.

"YouTubers have the advantage of making montages; they play games for hours and then slice that into an entertaining video. The problem is that now it's more difficult to get any coverage, as everyone is contacting them. Also, since triple-A publishers are throwing their marketing money at YouTubers, it will become excessively more difficult to get any traction during triple-A game launches. Don't release games between September and December.

"Twitch and YouTube differ slightly in that they aren't interested in news, press releases or what award you've just picked up," expands Tester. "It's all about the gameplay and finding an audience that enjoys the content put in front of them. Twitch streams are great fun to get involved with, as you can join them live to answer questions from the audience for a more engaging stream."

Clay concurs: "These platforms differ because the influencer and their audience feel like the platform belongs to them. It appears unmediated, unfiltered and pure, unlike traditional media. The channel host will be the focus of the content. With influencers, their fans might tune in to see impressive gameplay skills, be entertained by humour or gain insight from detailed commentary."

> **"Gameplay is more important than 1,000 words. If its fun, everything else will follow.**
>
> *Damian 'Kenet' Baran*

James Beaven, director of marketing firm Keymailer, adds his observation that "livesteams don't always hang around as VOD, so you don't have to worry about gameplay not being representative of the final game".

Although this may be the case, Mikael Gustavsson, who livestreams under the moniker of Playinithard, warns that releasing a build too early can be a wasted effort.

"As a Twitch streamer, it is important to engage your audience – unless it's a very hyped triple-A game, people aren't interested in seeing games coming out in the distant future and you get diminishing returns in views," he explains. "If it's out in a few months or just released it is interesting to me."

TO PR, OR NOT TO PR

If getting your game noticed sounds like a lot of work, make no mistake: it is. The experience and expertise needed to propel an unknown title to the heights of viral stardom can be a full-time task – a tough ask, especially for smaller teams.

"Make sure your producer is also your PR guy," suggests Nichiporchik. "That producer needs to have development experience, or ideally wears the hat of the game designer as well. If you think about exciting features that'd make your fans interested in the game more it's crucial to focus on them. Then it's just a matter of giving an already interesting game a good boost.

"If you have the bandwidth, do everything internally. If you're a two- or three-person team, go with a PR agency. They can do a lot of things for you that you shouldn't be wasting time on – and make your game better instead. It's always good to have a new perspective on your title."

Palka agrees: "Indie games should be promoted by its creators or members of the team.

"Agencies usually treat every product the same way. To 'sell' your game to the public as an indie developer, you have to be authentic."

While hiring external help can be costly, when deployed properly they can pay dividends, as Beaven urges: "If you have the budget, PR agencies and consultants are invaluable to have on-board throughout the launch window – particularly if your team is suddenly swamped by support, or there's not enough of you to keep up with enquiries."

However, a third-party agency can lose the human touch that helps so many indie titles find coverage.

"Yes, if you have the money to spend, a PR firm seems like a good idea," admits YouTuber Vortac. "However, I urge game devs to consider this: chances are, the right channels may not even be on the same mailing list that your PR firm is using.

"These companies haven't taken the time to build any sort of relationship. All they care about is making sure you got your game sent out to X amount of eyeballs, regardless of relevancy."

MONEY TALKS

It's not only PR and marketing firms that devs can consider investing part of their budget in to gain exposure. Some YouTubers and streamers will themselves directly offer coverage in return for cash.

One dev to experience this is Wales Interactive, which was asked to pay £14,000 by a prominent YouTuber to promote *Soul Axiom* – a deal the studio turned down.

"What's worrying is that there was no mention of disclosing the paid promotion in the offer and I haven't found any disclosures on other features on their channel," he expands. "This hasn't affected my approach but it has damaged my respect for this channel, and others that have approached me."

Is Tester right to be sceptical of most video influencers – and is Wales Interactive's experience a rarity, or indicative of a wider trend?

"When it comes to paying for YouTubers to cover your game, it mostly comes down to whether or not they actually want to cover your game," says Bossa Studios content producer Oliver Hindle. "The main question they ask themselves is: 'Will covering this game get me more views than I would get by covering a different game?'

> **Anyone who charges you for a review is stealing from you.**
> *Alzorath*

"If there's a lot of buzz about a game already, then it's much more desirable to cover, and if it's not getting any pick up at all, it's just not as desirable. It's in those situations where commissions would potentially help incentivise coverage."

The concept of paying video makers for coverage has long been a controversial topic, and recently returned to the fore following the revelation that major YouTubers, including PewDiePie, had been paid to promote Warner Bros title *Middle-earth: Shadow of Mordor* without openly disclosing the deal.

Alzorath retorts that devs should steer clear of such partnerships completely.

"The only time you should be giving money to a content creator is if you are paying them to participate in an event as part of advertising, never for simply covering your game on their site, as this lowers the value of their content as well as lowering the legitimacy of your studio," he argues.

Not all content creators are as dismissive, with others saying an established collaboration can be far more valuable than standard coverage – as long as studios are willing to put control in the hands of their partners.

"I love working with companies who are willing to go out on a limb on an unusual or experimental idea," says Dan Bull, who records original songs and music videos based on games under the Freshnut Records label. "Despite being more risky, things like this can stand out and pay off much more if done well."

Clay says that the "best practice is to treat an influencer relations campaign with the same strategic attention to detail and due diligence that you would have with PR or marketing".

"This means ensuring that budget is apportioned in the most effective way and influencers are selected on the basis of having the right fit with the campaign, not just for their size or reach."

He adds that bootstrapped studios can still benefit by making sure of the resources available to them.

"Where budget or time is in short supply, provide value with other currency," Clay recommends. "This can come in the form of early access, bragging rights, money can't buy opportunities and exclusivity. Methods could include distribution of codes, creation of bespoke merchandise, running social media giveaways or a rranging early access capture sessions."

With the options to get your game seen and heard seemingly limitless, developers who put in the time, effort – and, potentially, money – can see their investment establish the success of not only a title, but an entire studio. ■

RATES RACE

What do content creators and influencers actually charge for coverage? We ask YouTubers and streamers for their going rates

Anonymous YouTuber: "$850 for a standalone video and $500 for each additional video. I do vary it a little bit based on the game or situation."

Jupiter Hadley: "I do not have a rate that I charge developers for playing their game – I play them for free."

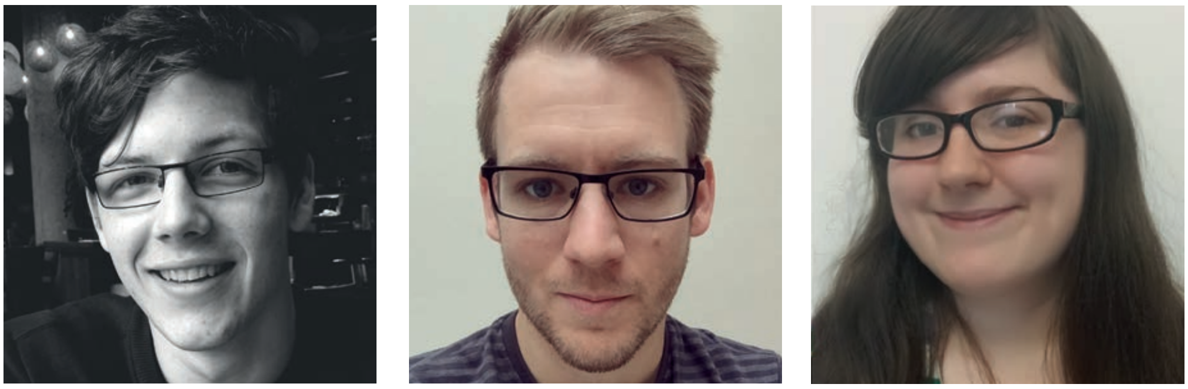
Alzorath: "It is not your job, nor your obligation, to pay us for coverage – you shouldn't need to grease palms to get your content covered. Anyone who charges you for coverage is stealing from you. Pay for advertisements, not reviews."

FrozenFoxy: "I don't charge developers. If you are going to offer a great game that I can stand behind as something I enjoy, I want to support you as a developer, not have you pay me. It's important that developers are allowed to flourish and show their talent without having to pay extra to get it out there."

Playinithard: "I never ask for money from the developer. If you do offer me money I only accept it if I am able to say what I think about the game. I have done paid promotions and it is indeed hard to stay unbiased."

Vertigo Teaparty: "I do not charge devs for coverage. I've only been approached for sponsored deals once or twice but didn't accept as the games themselves did not appeal to me. However, I would consider a sponsored deal for a game I liked."

World of Longplays: "I see charging devs as a dick move. They already have it hard enough as it is. Our coverage is 100 per cent free, but not guaranteed. If a longplayer finds a game interesting then it will get done, otherwise tough luck."



Above: YouTubers Tom 'Flashgitz' Hinchliff (*left*) and Jupiter Hadley (*right*); Wales Interactive's Ben Tester (*centre*)

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THE PRODUCERS

Develop sat down with producers from studios of all sizes to discuss their central – but seldom discussed – role in a game's development, and ask what's next for their ever-changing responsibilities

Left to right: Chilled Mouse's Lana Zgombić, Curve's Sophie Rossetti, Studio Gobo's Andy Walker, Jagex's Conor Crawley, Auroch's Peter Willington, Creative Assembly's Mark Sutherns and Mercury Steam's Dave Cox

When Lana Zgombić of UK studio Chilled Mouse is asked by friends or family what her job is, the answer isn't as simple as she would hope. The majority of *Develop* readers will have a general understanding of what an associate producer does, but beyond that?

"I tell them it's mostly a manager position," she says. "It's so much more but for them to understand, it's simpler to say you're in charge of things rather than listing all the little ways you help. They think all you do is Excel spreadsheets – which sometimes, yes, I do, but there's so much more."

Zgombić is one of seven producers *Develop* and Testronic invited to Brighton last month to discuss their role. The consensus was a fair summary, albeit a cold one: the producer ensures a project gets done, on time and to a standard of quality.

Jagex senior producer Conor Crawley offers a far more pleasant definition: "If development was a river, you're making sure it's constantly flowing in the right direction. If there's a boulder, you're moving it out of the way before anyone hits it. There's an element of understanding what's going to happen in the future rather than just what's happening now."

Auroch Digital producer Peter Willington adds: "It's about helping talented people do their very best work. A good producer gets to know what those people actually need to be the very best and bring the value required to the company."

Dave Cox, currently senior games producer at Mercury Steam and formerly a producer at *Metal Gear* firm Konami, describes producers as facilitators and communicators.

"The producer is someone that serves the team, not the team serving the producer. It's about dealing with people: stakeholders, junior artists, studio heads and more – and you need to be able to manage those relationships one-to-one. So being a people person is one of the most important attributes.

"What worries me is sometimes producers are looked upon as project managers – even by their studios – but they're so much more than that. Getting that across to some people is a bit of a challenge sometimes."

Studio Gobo producer Andy Walker describes the role as being at the centre of a "spider's web" of

> **As a producer, there's an element of understanding what's going to happen in the future rather than just what's happening now.**
> *Conor Crawley, Jagex*

Interpersonal skills and the ability to let others shine is key to being a producer, says Rossetti (*above, left*)

communication: "You're the intermediary between management, deliverables, clients and the team. You need to let the team get on with what they need to do and protect them from everything else – even to the extent of studio concerns like hirings and firings."

Curve Digital production manager Sophie Rossetti emphasises the need for strong interpersonal skills: "Finding where people can shine and bringing out their best skills is really important. You have to adapt your management style depending on the people you work with."

PRODUCE A SOLUTION

Central to the role is problem solving. When larger issues with the game arise, it is the producer that the team turns to for guidance. The trick, says Crawley, is thinking about those problems laterally.

"So many people come to you with an issue that, to them, seems like the end of the world, everything's falling apart, the sky is actually going to crash down around us," he says. "But being able to look at that and think about how things actually work, then offer an option that nobody thought of, is vital to keeping everything running."

Walker adds: "A project management response is one solution, whereas a producer response is more to offer 500 other options that can be explored before you start cutting quality, adding more people on or changing things. It's about finding smart solutions to hard problems."

All of our experts agree that it's vital to manage stress – not just the team's but also your own. Keeping a cool head can go a long way to calming your team, and reminding them of the bigger picture.

"Level-headed realism is absolutely key," says Willington. "Yes, we're making art – but it's commercial art, art to a deadline. There may be a more monetary factor involved. The creative people you work with may want to make the best thing you can – we've all worked with artists who want ten days, not five – but you need to have a realistic attitude."

> Sometimes teams can end up naval-gazing about a feature they really love and you have to urge them to move forwards with the rest of the project.
> *Dave Cox, Mercury Steam*

Cox adds: "Having a commercial mindset and keeping the team focused on the commercial reality of shipping something is really important. Because sometimes teams can end up naval-gazing about a feature they really love and you have to urge them to move forwards with the rest of the project."

While it may seem like the team relies heavily on the producer, the reverse is just as true. As a result, producers need to ensure they have established strong relationships with the teams they work with. This also helps with problem solving, says Creative Assembly development manager Mark Sutherns.

"You've got to make sure you don't end up in an ivory tower where you think you exist above them," he says. "These are the people that are going to help the most, so if you understand them and what they're capable of, often the solution you need is right there.

"Being positive helps. If you see something great on a screen, make a point of it and gather people around. I love doing that – it helps the morale of the team, they know what each other's working on. Just try doing a show and tell at someone's desk as you walk around the floor."

Dealing with teams on a regular basis to solve problems requires more than people skills. Rossetti says there are advantages to having a "conversational memory".

"Remembering what someone said two weeks ago about something off-hand can be so useful later on," she explains. "Especially when a programmer says 'I never said that'. And I can say: 'Yes, you did.'"

ON TOP OF THINGS

Managing production becomes far more complicated in an age of contractors and even full studios working remotely. It's naturally easier to communicate with teams in the same room or building as you, so it takes a particularly efficient producer to handle staff working further afield.

"The most difficult thing with contractors is they have to handle their own time," says Zgombić. "If they say they can't do something in a week, you have to urge them to manage their time better. They had the deadlines in advance. We can only do so much when working with contractors."

When it comes to communicating with remote workers, Crawley observes there are tools that solve this problem. Thanks to the likes of Slack, Skype and Google Docs, the days of faxing code around the world or jumping on a long-haul flight are long gone.

"Being able to speak to people face-to-face through video chat and make sure they're collaborating on things like online documentation is invaluable," he says. "Those tools have changed how we look at some things."

Walker adds that greater distances cause more issues: "If you have a guy in Australia, the US and so on, you're limited on when you can have meetings because otherwise half the team's asleep."

This also makes it harder for producers to keep track of how each team is progressing – something our experts all agree is essential. An overview is not enough as producers need to know their product, and its condition, intimately. Fortunately, some people have a natural inclination to do just that.

"I'm quite nosy and like to see what everyone's doing," admits Zgombić. "But that's very important because it means I can plan ahead. I don't think I'd like to work with other producers and not know what every other team is doing. I like to be on top of things."

Crawley adds that this can be tougher at larger studios, but it's still vital: "When you're running a team of 80 to 100 people, I know what every single person on the floor is doing. You would think that as your company gets bigger your role would start changing, but it doesn't. You

Games launching into Early Access and being streamed ahead of launch has changed the requirements of producers, our panel of experts agreed

still have to be involved in everything – the problem just scales as you grow, and you need to keep on top of it.”

Willington observes that this knowledge takes producers’ responsibility out of the studio.

“You also communicate what your game is to the end audience and to the press,” he says. “You are often the face of your studio, because producers are best placed to have those answers to any questions people might have. We’re the best people for journalists to talk to.”

THE MORE THINGS CHANGE

In many ways, the role of the producer has changed considerably over the past few decades as the industry has evolved around it. Sutherns recalls a time when the only pre-launch milestones he had to worry about were E3 appearances and a playable demo.

“Nowadays, with livestreaming and showing the game in a playable state much earlier, those milestones have changed,” he says. “The game has to be playable, stable and demonstrable really early on. It’s a great thing for the gaming public, and for devs, because it means we’re driven to show that stability and quality as soon as possible. It also means we can play our own game much earlier.”

Walker believes the digital revolution has removed milestones completely: “A lot of companies are moving towards digital distribution and live operations – and that’s completely different because once you’ve released something, it’s got to be maintained week after week.”

The barriers between community and developer have also never been lower – this brings with it new challenges, according to Zgombić.

“There are so many Early Access games, so many open developments, and our job is to talk to the community as much as possible and get their feedback,” she says. “That’s very valuable: after all, we’re making games for them and they get to feel like they're involved.”

> **A producer is a role that will always remain flexible, and will always adjust to the platforms the teams are developing for.**
>
> *Mark Sutherns, Creative Assembly*

Looking ahead, Sutherns observes that while producers have already seen drastic changes and there’s more to come as gaming continues to evolve, it’s nothing production experts won’t be able to handle. Someone will always be needed to ensure the development river keeps on flowing, boulder-free.

“We’ve reacted to changes in technology and business models before,” he says. “It’s a role that will always remain flexible, and will always adjust to the platforms the teams are developing for.

“That’s what makes this role so interesting: it attracts the type of person who wants to be involved in an ever-changing industry and see it at a top level.” ■

COULD YOU BE A PRODUCER?

We asked our experts what advice they have for any would-be producers considering the role

Mark Sutherns, Creative Assembly: “Get experience in the studios as quick as you can, at whatever level – even starting at the traditional QA level. You’ll know pretty early whether the producer role appeals to you, because you’ll want to know what other teams are up to and how the game’s coming together. Just being nosy is a sure sign someone has what it takes to be a producer.”

Peter Willington, Auroch Digital:
“Always leave your ego at the door. Be humble and let the experts guide the projects. It’s easy when you’re at the centre of the web to feel like you’re super-important, but actually everyone else around you is on exactly the same level.”

Dave Cox, Mercury Steam:
“Listen as well as talk. Trust your team to know what the answers are to the problems, and be honest with them about what the problems are. If you think you’re in charge, that’s not going to work. The team will make your life hell. Find solutions together. Usually it’ll come from a team member because they know their shit better than we do.”

Sophie Rossetti, Curve Digital:
“Never be the first one to give an answer. The people around you have a lifetime of experience in each discipline. You couldn’t possibly know all that, so try to ask more questions and get the experts to give the answers.”

Conor Crawley, Jagex:
“Get ready to never be able to measure your own contribution to the game. Technically, you do nothing – although when you’re not there, nobody else does anything either. If you’re looking for personal glory, you’re in the wrong role.”

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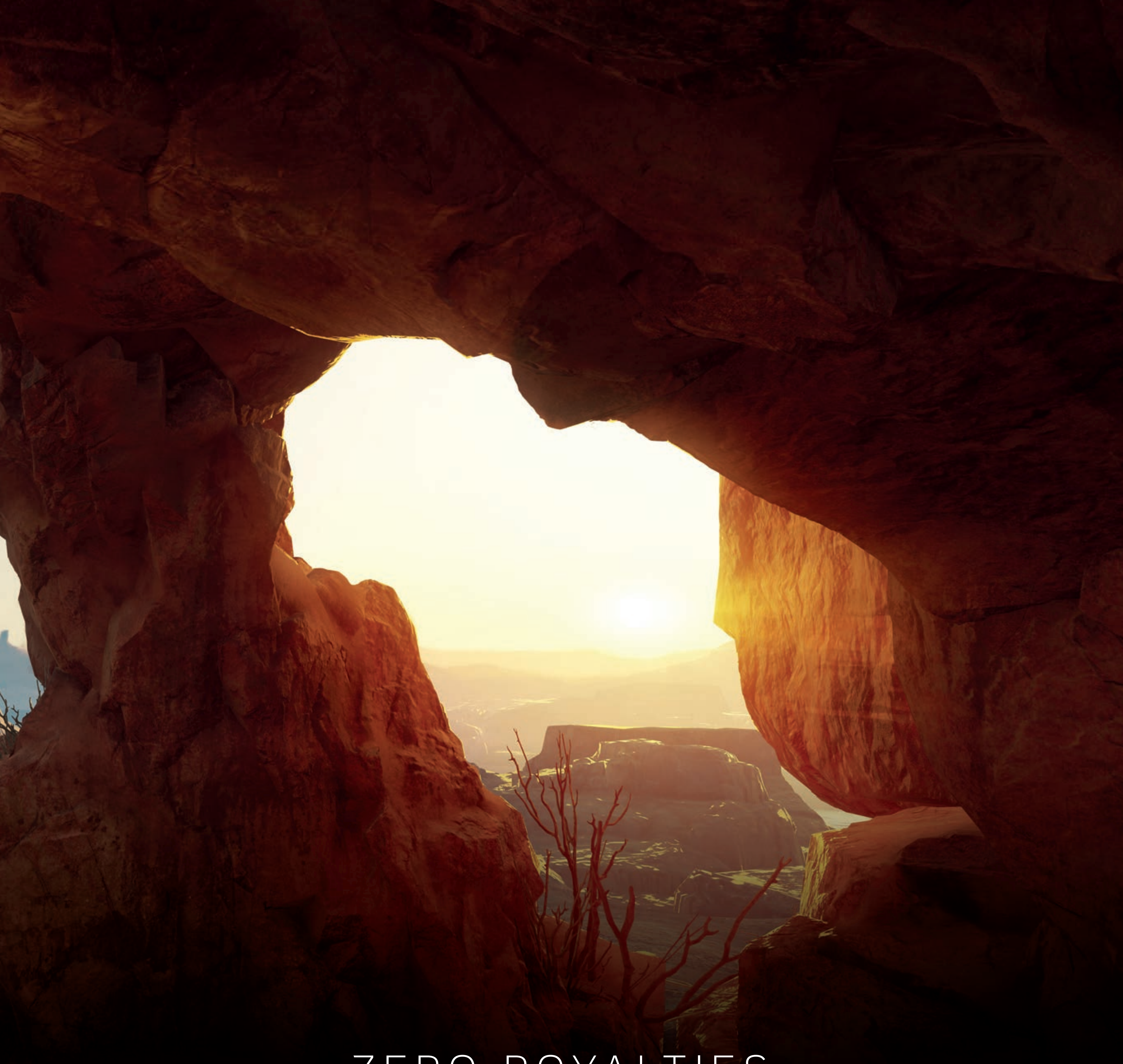

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FIL' YOUR BOOTS

One of the most populated countries in the world, the Philippines is seeing local studios break onto the global games stage – even as the industry continues to struggle to gain traction back home. **Matthew Jarvis** catches up with developers, service firms and industry organisations in the country

In line with its booming population and growing economic prominence, the Philippines' development industry is similarly seeing rapid maturation, supported by increasing interest from global games firms.

"This is a very opportune time for the Philippines," observes Ryan Sumo, lead artist and co-founder of studio Squeaky Wheel. "Ubisoft just opened up shop here and, if they succeed, more companies should follow."

Erick V. Garayblas, the one-man force behind Kuyi Mobile, says that he has seen "the local game development industry and community grow tremendously over the past few years".

"Meetups that normally include 10 to 15 people now have around 40 or 50 attendees," he explains. "More companies are put up every year and I'm seeing more independent developers as well."

The Philippines has long been associated with outsourcers and service firms rather than dedicated development studios, as Alvin Juban, president and chairman of the local Game Developers Association of the Philippines chapter and director of business development at Synergy88 Digital, recounts.

"The industry is still quite young, just over a decade old and has been predominantly been service-oriented," he recalls. "There have been a few key studios who have been able to pour out triple-A art content over the years, belaying to the fact that we are a strong art nation."

However, Playlab GM Niel Dagondon believes the country's development makeup has shifted as smaller creators establish a local foothold.

"The dev sector is much larger than it has ever been," he states. "Now, it is not just outsourcing companies like it was back in the 2000s, but also indie studios, dedicated service providers working in QA, mo-cap and so on, and original IP creators."

While Filipino studios are becoming more commonplace, Gabby Dizon, CEO and co-founder of Altitude Games, says that international firms and workers still remain a rarity.

"There are a few international companies in the Philippines, with Gameloft handling its backend operations and Ubisoft setting up its studio in partnership with De La Salle University campus in Laguna," he reveals. "There are few expat or foreign workers in the game industry in the Philippines, although they do exist."

Sumo adds that this may soon change, as "politically there is some talk of removing impediments to foreign ownership of companies, which will make it even more enticing for companies to move here".

MAKING PROGRESS

With devs from overseas yet to be convinced of the Philippines' viability as a development hub, the onus has been on the local development community to foster and incubate fresh talent.

"The hurdle five or more years ago was that you'd have to self-study in order to make games yourself – but now almost all the well-known local universities offer game design and development courses," says Garayblas. "Students and interns are more skilled in their respective fields."

Dizon agrees: "The academe has done a great job of building a pipeline of talent into the game industry. De La Salle–College of St. Benilde offers a full four-year game design and development course staffed by industry practitioners to ensure that what is being taught to students is always current with industry standards. GDAP has an academic track where schools can sign up and be accredited to teach game development to their students."

Ron Schaffner is president and founder of services provider Secret 6, which contributed assets to Naughty Dog's *Uncharted 4*.

"Today, the industry has grown tremendously," he notes. "Interest in the field grew, and the talent pool quickly expanded in quantity and quality, not just due to the early entrants into the games industry, but through the

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support of several universities that now offer game development courses and degree programmes.”

While it’s clear that steps have been taken to encourage a greater number of budding devs to enter into the industry, Dagondon argues more work needs to be done to push the Philippines into line with its global counterparts.

“Education, if any is basic, and many studios do not push the creative envelop enough to make the product truly ‘world-class’,” he assesses. “It is easy to find talent but very hard to find great talent – which is a necessity in this industry.”

GLOBAL POWER

Breaking onto the world stage remains the Filipino games industry’s greatest challenge. While Secret 6 technical development manager Gene Gacho estimates that there are around 80 different studios in the Philippines, Juban says: “We have to see one to achieve impactful commercial success.”

Garayblas elaborates: “While the local development community has been steadily growing, sadly, local revenue isn’t catching up.

“The good news is that this situation has forced most local developers to target the overseas market because we have a better chance of becoming successful and sustainable taking this route.”

Sumo comments that most titles developed locally are for mobile and browser, due to the low barrier to entry.

“For larger, more complex games that require a studio, it’s hard to get the kind of funding that makes that possible,” he explains. “Local banks and VCs still have trouble wrapping their heads around game development as viable business.”

The gender balance in Filipino studios is similar to that in the West, with art teams seeing a particularly high number of female staff, say devs in the region

Schaffner also laments the difficulty in obtaining financial backing: “Compared to other countries, the amount of government support and private venture in the Philippines is very limited.

“Without such resources, a company’s growth and its ability to enter new markets is slowed or prevented. Aside from that, internet quality and cost are among the worst in Asia.”

Kevin Boase, development director and co-founder of Buko Studios, also expresses concern that the country is lagging behind its Asian neighbours when it comes to the elements required for a fertile sector.

> **It is easy to find talent but very hard to find great talent.**
>
> *Niel Dagondon, Playlab*

“It feels like the Philippines has fallen behind in terms of experience and infrastructure compared with, say, Singapore and China,” he offers. “There is no shortage of passion to catch-up, so investment should yield good results.”

Boase reinforces his belief that the local industry could make its mark on the global industry if the necessary support was given.

“Artistically, the Philippines are drawn to a mix of western and eastern styles and genres,” he details. “They keep up with international trends and quickly identify what it is to be competitive. Budgets, experience and spending hold them back.”

Dizon hints at the growing ambitions of Filipino creators.

“In the last few years, we have seen a lot more independent teams come up with original content, driven by the open platforms of mobile and PC,” he says. “The outsourcing industry is still here to stay, but new and experienced teams alike are discovering that they can create their own products now that the cost of development has rapidly gone down.”

‘PINO PREDICTIONS

With the Philippines only at the beginning of its growth as a region for development, what are the advancements set to impact the emerging industry?

“The advantages and issues surrounding outsourcing are well known by now,” Boase says. “There is still a need for more investment within the Philippines to be able to offer higher-end services and develop quality portfolios.”

Garayblas instead puts a focus on the nascent technologies set to be adopted by aspiring devs in the region.

“One of the new technologies that could also set an impact is the advent of VR,” he says. “Since Filipinos are known for being creative, I’m pretty confident we can make unique and innovative games using VR.”

Juban instead highlights the opportunity to attract a greater number of international powerhouses to move into the country.

“Better internet service and more telco co-operation will make the bigger dev studios take a second stab at the local market and feasibly the rest of South-East Asia,” he hopes.

Sumo concludes with an optimistic summary of the country’s efforts to make its name heard on a global scale:

“All of the developers here have a collective chip on their shoulders, and it’s only a matter of time before someone breaks out and brings attention to the scene.” ■

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MOVERS & SHAKERS
It's all change at D3T, Keywords, Iron Galaxy and Rare
P52

AN UNREAL WORKPLACE
Epic Games discusses expanding its headcount and gaining expertise
P53

THE RIGHT MOTIVE
EA's new studio on who it's looking for to work on *Star Wars*
P55

WILL THE BREXIT AFFECT DEVELOPMENT RECRUITMENT?

As the UK prepares to leave the EU, we speak to recruitment firms about the possible impact on devs

On June 23rd, 52 per cent of the UK voted to leave the EU. We might not see the effects of this vote in the short term but the decision will definitely have an impact on how the UK games industry will seek new talent in the future.

"From a recruitment perspective, the main potential impact of the Brexit decision on the UK development community would be around restriction on free movement of EU nationals," predicts Liz Prince, business manager at recruiter Amiqus.

Aardvark Swift MD Ian Goodall agrees that the end of free movement within EU countries could be the biggest issue: "Inevitably, visa applications will become more complicated. We've found from experience that visas often create a bottleneck in the hiring process, slowing the process down and commonly affecting hiring decisions."

CV Bay director Jonathan Glas has already seen some effects take hold.

> **Best case is that this kick-starts a new drive to actively improve UK development skills in education.**
> *Ian Goodall, Aardvark Swift*

"There is no doubt the Brexit vote is having an effect on recruitment, with some of our clients in the IT industry closing roles within days of the vote," he reveals. However, he clarifies that he hasn't seen "any such moves from the gaming community".

While Goodall fears recruitment may take a hit, there could be a positive outcome on the education side.

"Brexit could cause more studios to look at employing more UK developers, but currently the essential skills just aren't common in this country – which is why the games industry employs so many skilled EU workers," he suggests. "Best case is that this kick-starts a new drive to actively improve and increase UK development skills in education."

Prince also looks on the bright side of the Brexit and believes the UK government will look to maintain the current flexibility of the UK labour market.

"It's important to note that successive British governments have always supported movement of highly skilled individuals and we see no reason why this would change," she explains. "In the same way, we believe that it is politically unlikely that existing EU expats would be asked to leave the UK.

"Of course, we await the outcome of the forthcoming negotiations but overall, in our experience, great talent usually makes it to where it is needed and, as recruiters, we need to keep working hard to attract and engage talent for UK studios to ensure the UK games industry can continue to grow."

But for Glas, the future of the UK dev industry remains overseas.

"There is no doubt we are going to need to tap into the European talent pool of developers in the coming years if we are going to keep gaming companies in the UK," he concludes. ■

MOVERS AND SHAKERS

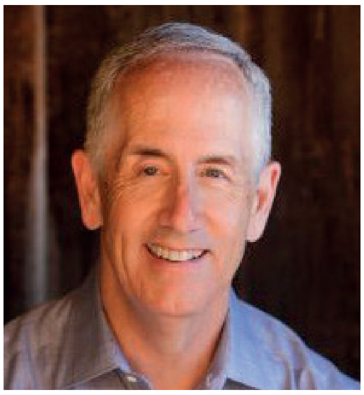
The latest high-profile hires and promotions

D3T

The software development company has appointed **RICHARD BADGER** as general manager. He joins from the BBC where he was executive product manager, working on children's games. He also worked for the likes of THQ for four years as production director.

Commercial director **JAMIE CAMPBELL** said: "Richard's experience will prove invaluable in continuing to take D3T forward."

KEYWORDS STUDIOS



Liquid Development's CEO **FRED STOCKTON** has moved to the studio's parent firm Keywords. He takes up the role of worldwide service line director for art – but has announced that this is a temporary position, as he will retire at the end of 2017.

Liquid founder **DARREN BARTLETT** replaces Stockton as studio director.

IRON GALAXY

Former PlayStation VP of third-party relations **ADAM BOYES** (*pictured*) has joined the *Killer Instinct* developer as CEO.

Boyes departed Sony in early July after four years at the firm, saying he was looking to return to independent development.

Meanwhile, Iron Galaxy veteran and director of product development **CHELSEA BLASKO** has been promoted to chief product officer.

RARE

Rare has bolstered its team with former Lionhead and FreeStyleGames staff.

Former *Guitar Hero* developers **DAVID DEMPSEY** and **IAN NORRIS** join from FreeStyleGames as senior software engineers.

Also joining is **TED TIMMINS**, who previously worked as *Fable* franchise manager at Lionhead and designer at Another Place Productions.

SIMON PRODGER has been appointed as director of audience and brand strategy and **EMMA BRIDLE** has been hired as social media manager.

PRODUCER OF THE MONTH

We speak to **Alexandra Herasimovich**, the mobile localisation lead at Wargaming

Tell us about your career to date.

After graduating with a degree in Intercultural Communication, I worked for over three years as a translator, interpreter and, later, a personal assistant to the head of organisation. I really enjoyed constantly working with a foreign language – though the sphere I had to deal with was not exactly my cup of tea, ranging from mechanical engineering to finance and investment.

Game Stream, which creates games for Wargaming, offered this fascinating opportunity to get behind the scenes and be part of something that makes people happy.

I've always been a gamer, and I believe that was one of the reasons I was offered the position here four years ago.

I started as a localisation manager for web projects. As I rose to localisation team lead later, mobile projects were added to my sphere of competence.

Describe your typical day.

My primary responsibility is to ensure the team has all resources necessary to provide the best results possible.

My typical day includes sorting the incoming tasks and monitoring progress on the current ones, providing my support and assistance wherever needed. This usually consists of communicating with various teams, negotiating terms, reallocating workload if necessary, and serving as a mediator if any issues arise. I also compile weekly and monthly team stats and reports.

What has been your biggest achievement to date?

There was a time when I was the only person working on localisation of web projects and, as the number of tasks grew rapidly, the workload escalated accordingly. So I had a unique chance to build up my own team from scratch. It started from job interviews, teaching the newcomers all I know, delegating more and more, connecting spiritually, until suddenly we all felt we were truly a team. This team of qualified specialists is what I am really proud of.

What advice would you give to someone looking to forge a career in localisation?

From time to time, you come across a process or a workflow that seems odd and hard to adjust to. If you do, you should always question it. Even if it has run this way for years before you. Never be afraid to look for a smarter solution. People around you may be more experienced, but sometimes it is a fresh perspective that is essential. ■

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“EPIC EMPLOYEES EAT, SLEEP AND BREATHE GAMES”

The Unreal Engine creator is always looking to hire across its 12 offices. **Marie Dealessandri** chats with the firm’s senior recruiter Emily Gabrian about what it takes to become an Epic developer

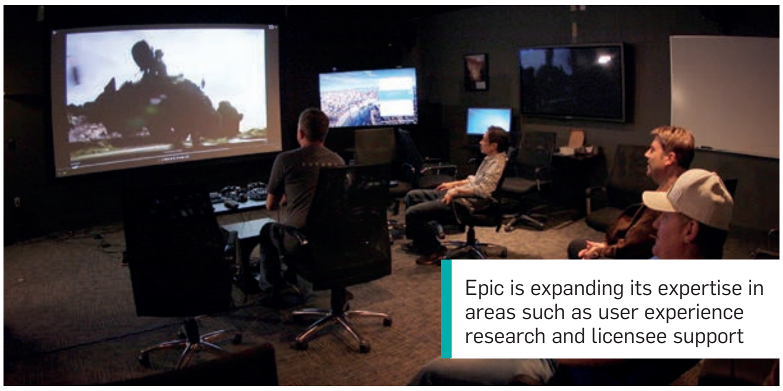
Epic Games is not just ‘another games development company’ – the US studio also created one of the most popular suite of dev tools, Unreal Engine.

“We’re really proud of the massive growth we’ve seen with Unreal Engine 4,” senior recruiter Emily Gabrian enthuses. “We recently announced that more than two million developers are using it to build their projects across game, visualisation and more.”

This number should continue to increase as the 25-year-old company keeps on growing every year. Epic currently has over 50 job openings worldwide, and has just launched its new MOBA *Paragon* into open beta.

“That’s just the beginning; there’s a ton going on that gets us excited about the future,” Gabrian adds.

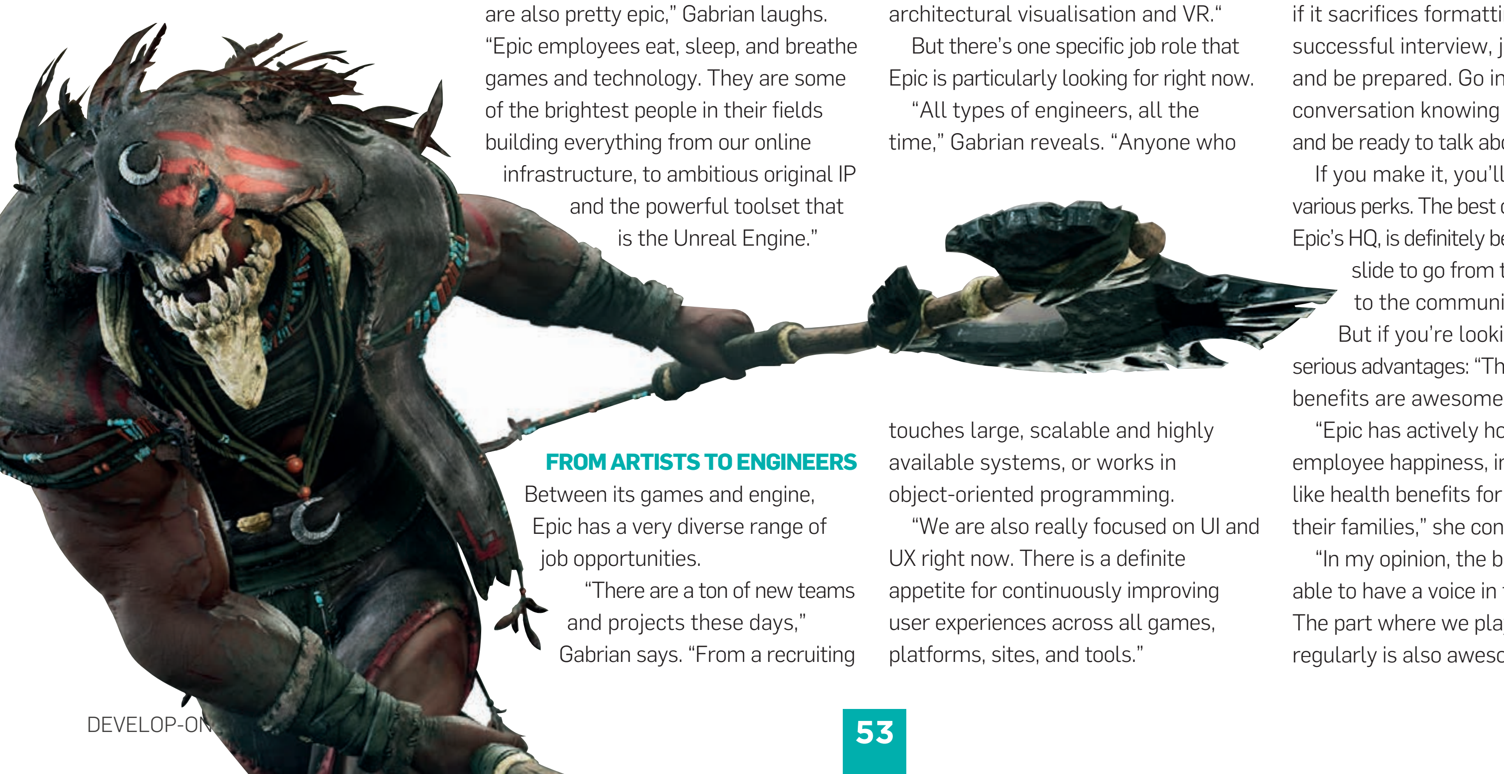
“In addition to continued Unreal Engine 4 support, we have teams working on *Paragon*, *Fortnite*, *Spyjinx*, and *Unreal Tournament*. We also are growing our publishing organisation, having just opened a European office in Berlin earlier this year.”



Epic is expanding its expertise in areas such as user experience research and licensee support

In addition to this new German office, Epic also has three studios in the US (including its North Carolina HQ) and a presence in China, Japan and South Korea, plus two studios in the UK’s Guildford and Sunderland. All of these locations represent around 600 people.

“We’re a pretty humble crew, but we are also pretty epic,” Gabrian laughs. “Epic employees eat, sleep, and breathe games and technology. They are some of the brightest people in their fields building everything from our online infrastructure, to ambitious original IP and the powerful toolset that is the Unreal Engine.”



FROM ARTISTS TO ENGINEERS

Between its games and engine, Epic has a very diverse range of job opportunities.

“There are a ton of new teams and projects these days,” Gabrian says. “From a recruiting perspective, we still actively focus on C++ programmers and more traditional art and design positions associated with game development. We are also building new teams though, adding expertise in areas like statistical data analysis, web services, marketing and developer support.

“It’s pretty exciting to be growing our breadth of expertise to include things like user experience research and licensee support across not only games, but areas like film, architectural visualisation and VR.“

But there’s one specific job role that Epic is particularly looking for right now.

“All types of engineers, all the time,” Gabrian reveals. “Anyone who touches large, scalable and highly available systems, or works in object-oriented programming.

“We are also really focused on UI and UX right now. There is a definite appetite for continuously improving user experiences across all games, platforms, sites, and tools.”

Epic is looking for devs who want to make an impact not only on the studio, but also on “the future of technology”.

“Epic oozes this sort of calculated fearlessness,” Gabrian explains. “The vibe here is very kinetic – always moving, growing, improving. That ambition is something that each individual brings to work with them everyday.”

PASSION ON SHOW

To become a part of this ‘vibe’, Epic’s senior recruiter has one simple tip.

“The best thing you can do to get an interview is to show us what you make. That could be tools, games, art, websites – whatever it is you develop. We love to see passion and problem-solving, and what defines your best work.”

Gabrian adds that devs should keep their CV simple when applying.

“A résumé or CV should be easy to read, and not too crowded,” she advises. “Don’t worry about the ‘one page rule’ if it sacrifices formatting. As for a successful interview, just be yourself and be prepared. Go into the conversation knowing your strengths, and be ready to talk about them.”

If you make it, you’ll have access to various perks. The best one, if you work at Epic’s HQ, is definitely being able to take a slide to go from the second floor to the community meeting area.

But if you’re looking for more serious advantages: “The health care and benefits are awesome,” Gabrian says.

“Epic has actively honed its focus on employee happiness, improving things like health benefits for employees and their families,” she continues.

“In my opinion, the best perk is being able to have a voice in the company. The part where we play games regularly is also awesome.” ■

EMPLOYEE **HOT SEAT**

Rich Jordan on filling two roles at Sumo Digital: **Associate Art Director** and **Lead Concept Artist**

What is your role?
I am the lead for the concept team and responsible for helping to implement the art vision of the senior art directors. Day-to-day, this means I live a dual existence filling two roles.

As a concept artist, I spend my day creating character and environment designs and helping to guide the rest of the concept team and plan their workload with the help of the project manager and producers.

As associate art director, I help to drive the look and feel of the animation, the open world environment and character modelling by using the visual language skills I have developed as a concept artist.

How did you get your current job?
I started working for Sumo in 2007 as their first full-time concept artist.

I went through quite a straightforward interview process with studio head Darren Mills and creative director Sean Millard. I took them through my portfolio which, whilst I would cringe to show anyone nowadays because I've grown so much as an artist, did have a wide variety of styles and content that I had worked on.

> “We have low levels of people moving on and those that do tend to return.
> *Rich Jordan, Sumo Digital*

What perks are available to those working at the studio?
The main perk I take advantage of is the employee gym; being able to get a quick workout in before work is ideal.

Every year we have a Sumo Big Day out and I never miss those as they are always a lot of fun, even when the weather is foul – there's always beer.

Of course, that's not to discount the other fantastic perks that really help everybody strike the right work/life balance such as flexi-time, 24 days of holiday, bi-weekly fruit deliveries, cycle to work schemes and the free pop. (I did say there was a balance.)

What is the recruitment process like at your studio?
We recruit through our website, agencies and get out into universities to make our presence known.

Obviously I mostly see the art side of the recruitment process, which is balanced to be informal, and a good way to get a feel for the interviewee and to give them a good idea of what Sumo is about.

We review portfolios as a first step, looking for quality and either a specific skillset for an IP or a broad skill base. We then request an interview: often this is done over Skype and is kept informal. If you've got a great talent and keen eye, we'll more than likely be seeing you again very soon.

What is the atmosphere like at Sumo?
The thing about Sumo is people tend to stay here. We have really low levels of people moving on and often those that do tend to return. The way the company is run is really open and the management are always available to speak to.

One of the main takeaways at Sumo is that everyone has the opportunity to learn and grow. It's been a dream come true to be given the chance to work with incredible publishers like the BBC, Sega, Sony, Microsoft and Disney. Career-changing stuff, really. ■

SKILLS AND **TRAINING**

Markos Mentzelopoulos, course leader for BSc Computer Games Development, talks about the perks available to students at the University of Westminster

Overview: University of Westminster's British Computer Society accredited BSc Hons in Computer Games Development can be taken as a three-year degree course or as a four-year course with a year in industry placement
Address: University of Westminster,
115 New Cavendish Street,
London, W1W 6UW
T: 020 7911 5884
E: fstregistry@fst.westminster.ac.uk
W: www.westminster.ac.uk

The University of Westminster offers a British Computer Society-accredited BSc Hons in Computer Games Development that can be taken as a three-year degree course or a four-year course that includes a year in industry placement.

"The strength of the course is that it covers all major technical elements of the games development process from design through to production," explains course leader Markos Mentzelopoulos.

"It prepares students for a career in software development with an emphasis on computer games. Our course provides students with a solid understanding of game technologies including object-oriented programming, applied maths and physics, computer graphics and game engines, games networking and AI. Students are supported to expand a broad range of knowledge and skills including mobile and web application development, 3D modelling and animation, and human computer interaction."

The team behind the course includes development experts such industry veteran Jon Hare, as well as Drew Cattanach, an experienced developer with a background in the industry at EA, and Jeffrey Fergusson, a motion capture specialist.

"We regularly organise talks, inviting external speakers from creative industries and major players in the gaming world to give students an understanding of what will be expected from them when they start their careers," Mentzelopoulos adds.

The university has developed strong partnerships with London-based studios, such as NaturalMotion, Space Ape and AppBox Media.

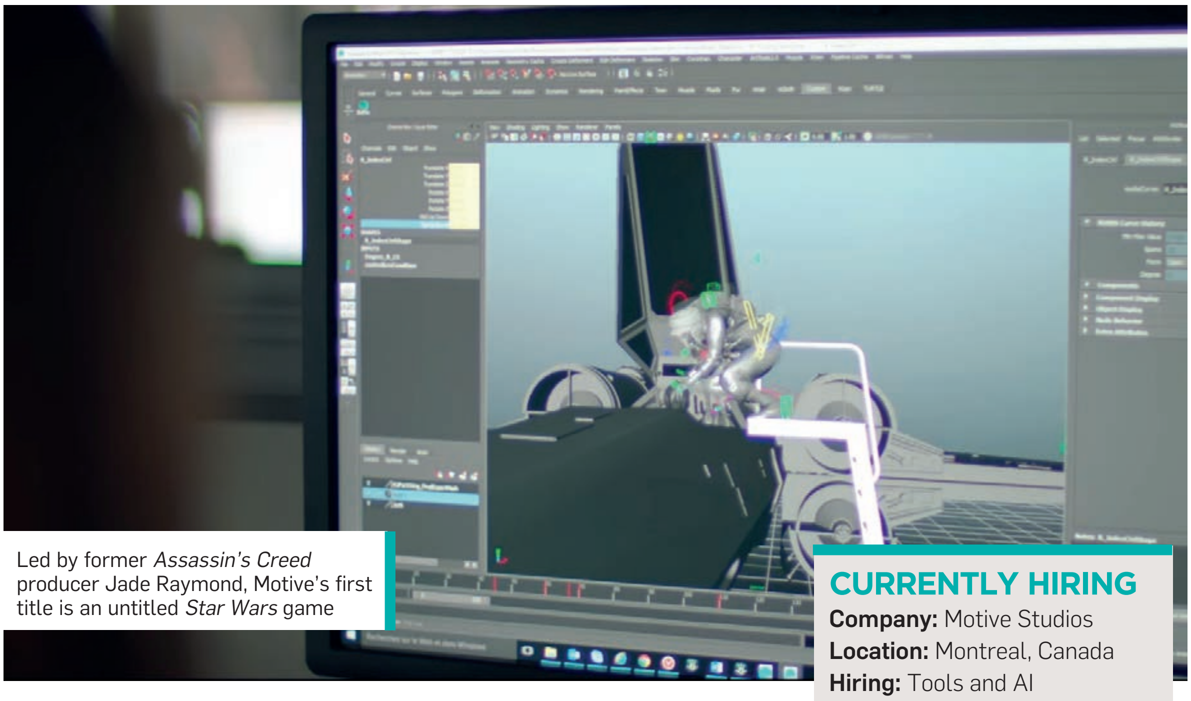
"These partners support our students with internships, graduate placements, project mentoring, QA testing, games jams and other events, as well as specialised talks," Mentzelopoulos says.

With access to various technologies, including a motion capture facility, VR equipment, development kits and engines, students have the opportunity to actually create their own games.

"Every year has been structured to include a group project to simulate the working environment within a small company," Mentzelopoulos details. "As part of these modules, students will need to pitch a game idea, develop a prototype and deploy it in a platform as part of their promotion." ■

RECRUITER **HOT** SEAT

Senior recruiter **Rebecca Davis** talks about the perks of working at EA's brand new studio, Motive, with working on ambitious Star Wars titles being just one of the many benefits



Led by former *Assassin's Creed* producer Jade Raymond, Motive's first title is an untitled *Star Wars* game

CURRENTLY HIRING

Company: Motive Studios
Location: Montreal, Canada
Hiring: Tools and AI programmers, 3D modellers, environment artists, animators
Where to apply:
ea.com/motivestudios
joinmotive@ea.com

What differentiates your studio from other developers?

Motive is a brand new studio, where developers have the unique chance to work with one of the world's biggest intellectual properties, *Star Wars*, and be part of the studio's founding team.

The studio was founded by Jade Raymond, well known for working on groundbreaking action franchises.

We've grown organically over the past several months, bringing on talent from studios in Montreal and EA studios who were interested in joining us, as well as talent from studios around the world.

It's a tight-knit team with diverse experience, which makes for a very collaborative environment.

How many staff are you looking to take on?

We are looking to add another 30 new staff to our growing team of 65.

What perks are available to working at your studio?

In addition to the amazing career opportunities, we love to brag about our great EA perks like comprehensive health and benefit packages, tuition reimbursement, RRSP company match, excellent vacation, free EA games and more.

What should aspiring devs do with their CV to get an interview?

Anyone interested can email (*See 'Currently Hiring'*), our recruiters are active on LinkedIn and candidates are welcome to reach out directly to us or through LinkedIn. For an artist or animator, we ask that they provide an up-to-date reel.

Who is the best interviewee you have ever had and how did they impress you?

The interviewees who impress are always those who've done their homework; they have thought through why they are interested in Motive and EA. They come prepared with good questions and are also authentic. In some ways, the less 'practiced' a candidate is, the better. It's okay if answers aren't extremely polished or if they need to pause and reflect. We'd rather get direct, genuine responses then rehearsed answers.

Who was the worst?

I don't think there has been a 'worst' interview, but candidates who aren't engaged, or who are defensive can be problematic. I have never minded nerves, I see them as an indicator that the person cares about the position. I have definitely counselled candidates who become tongue-tied to get their nervous energy out before interviews by running around the block a few times so they can express themselves.

> “It's a tight-knit team with diverse experience, which makes for a very collaborative environment.

What advice would you give for a successful interview at your studio?

Be on time, bring examples of your work and convey enthusiasm. If you don't think that the interview has covered what the team should know, ask if you can provide that detail.

If you have recruited internationally, what is the process like?

With Skype and voice conferencing, it makes the international interview process pretty easy. The difficulties or complications can arise with immigration and securing visas. We have hired several candidates from other locations in the world, but those positions tend to be the more specialised opportunities.

How have your recruitment needs change at your studio?

Now that we have recruited most of the discipline leads for Motive, we are filling out teams including audio, art, and programming.

Why should developers join you when indie and self-publishing have become so much more accessible?

With us, you can help build a studio from the ground up, work on one of the world's biggest IPs and collaborate with industry notables like Jade Raymond, Jean-Francois Poirier, Chris Matthews, Ryan Hicks... the list goes on. ■

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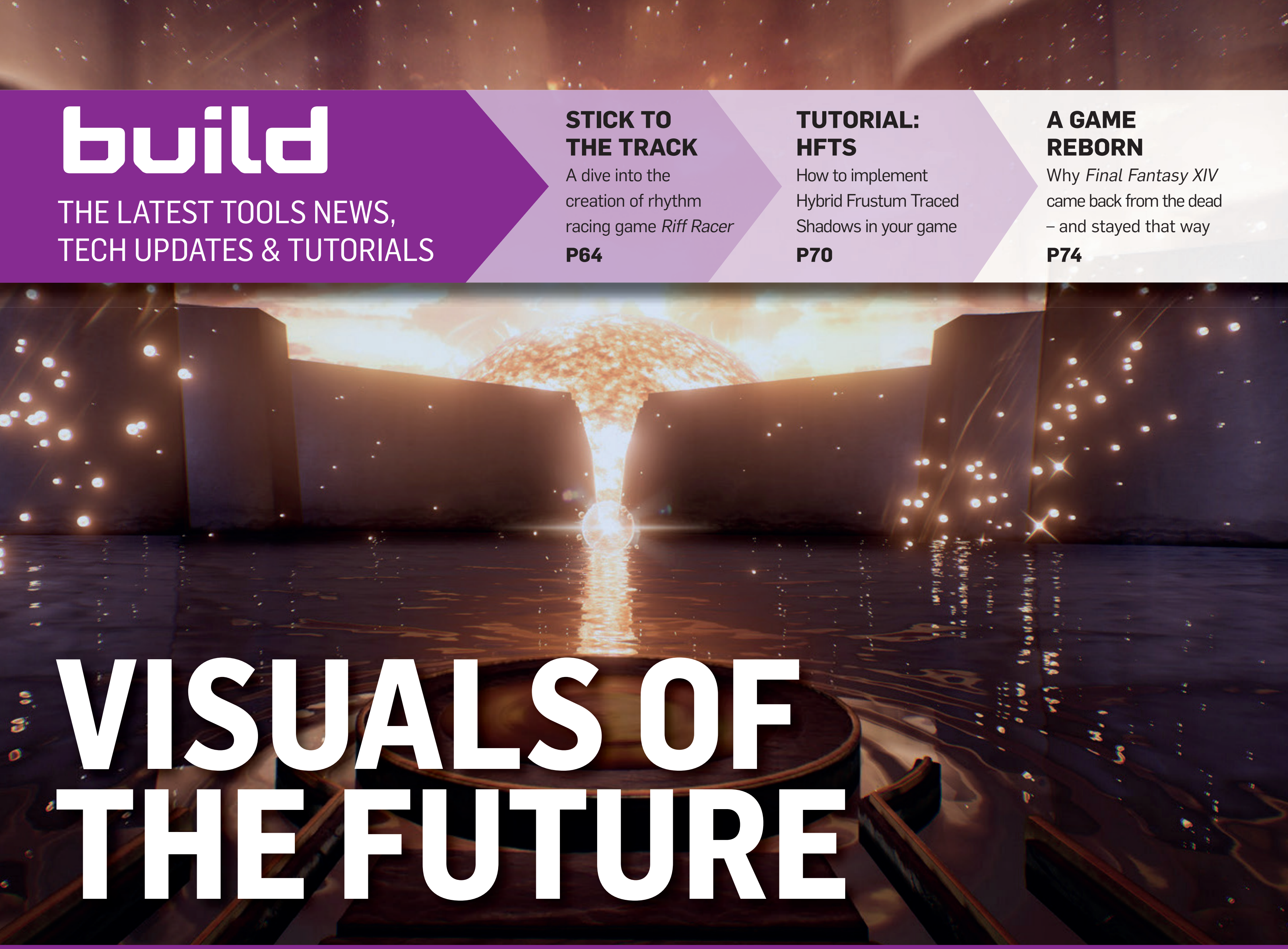
STICK TO THE TRACK
A dive into the creation of rhythm racing game *Riff Racer*
P64

TUTORIAL: HFTS
How to implement Hybrid Frustum Traced Shadows in your game
P70

A GAME REBORN
Why *Final Fantasy XIV* came back from the dead – and stayed that way
P74



VISUALS OF THE FUTURE

We're fewer than three years into the latest console generation, but already another major graphical revolution is afoot as VR, mobile advancements and superpowered versions of the PS4 and Xbox One push fidelity forwards. **Matthew Jarvis** asks Epic, Unity, Crytek, Faceware and Geomerics what's next

Alongside Apple's product range and the Sugababes line-up, computer graphics are one of the quickest-changing elements in modern culture. Games from even a few years ago can appear instantly dated after a new shader or lighting model is introduced, making it crucial for devs to be at the forefront of today's visual technology.

Yet, as with all of development, taking full advantage of console, PC and mobile hardware comes at a cost – a price that continues to rise with the growing fidelity of in-game environments and latest methods being used to achieve them.

"Triple-A games with fantastic graphics are becoming more and more complex to develop and require increasingly larger and larger teams and longer development time," observes Niklas Smedberg, technical director for platform partnerships at Unreal Engine firm Epic Games. "This means that it is more and more important to work efficiently and smartly in order to avoid having your team size or budget explode.

"Technologies that have stood out from the rest include new various anti-aliasing techniques like temporal AA, which has made a huge impact on visual quality."

Unity's Veselin Efremov, who directed the engine firm's *Adam* tech demo, believes "the latest push is around adding layers of depth and evocative power to environments and virtual worlds".

"There are things such as screen space reflections, and real-time global illumination," he says. "It can all be done with a relatively low memory footprint.

"Meanwhile, physically-based rendering is at its core a new approach to the lighting pipeline, simulating the natural way light and real-world materials interact. PBR shines when you're pursuing realism."

Supporting the latest methods of mastering specific optical elements are new underlying APIs that are propelling the entire sector forward.

"The expanding performance budget of each platform means that every generation developers can build larger worlds with more geometry, richer textures and more advanced effects," says Chris Porthouse, GM of lighting specialist Geomerics. "The advent of thin APIs such as Metal and Vulkan are giving developers access to finer control of the performance potential of these devices."

> **"It is important to work efficiently to avoid having team size or budget explode.**
> *Niklas Smedberg*

Although the inflating scale and ambitions of titles has led to a need for greater investment in graphical technology, Dario Sancho-Pradel, lead programmer at CryEngine outlet Crytek, highlights the advancements in making tools more accessible and easy to deploy.

"Recent technologies are helping character and environment artists to produce more complex and interesting assets in a shorter amount of time," he says. "Some examples that come to mind are procedural material generation, multi-channel texturing and photogrammetry."

Peter Busch, VP of business development at Faceware, concurs that "content creation tools are getting easier to use, less expensive, and now support multiple languages".

"That means that more people will have access to the hardware and software needed to create good facial performances," he says. "That, in turn, means facial animation, whether pre-rendered or rendered in real time, will appear in more indie games."

SMALL BUT MIGHTY

For decades, it was a widespread belief that indie studios couldn't hold a candle to the graphical might of triple-A powerhouses. The last few years have destroyed this myth, as the increasing power and falling price of development software have closed the gap, allowing devs including The Chinese Room and Frictional Games to produce outstandingly good-looking titles such as *Everybody's Gone To The Rapture* and *Soma*.

"Development tools have advanced tremendously in the past several years," says Efremov. "There's really very little stopping a creator from bringing their vision to market; it takes less time and fewer resources than ever before.

"What really distinguishes big triple-A productions is content and an emphasis on realistic graphics. There are ways smaller studios can replicate triple-A quality, such as PBR-scanned texture set libraries, terrain creation tools, automated texturing tools and markerless motion capture solutions."

Smedberg offers a reminder that a strong style can be as effective as pure graphical horsepower.

"Use something you feel comfortable with and lets you be most productive," he advises. "Choose an art style that fits you best and where you can excel. All developers should take the time to use graphics debuggers and profilers. The more you can learn about the tools and your rendering, the better your game will look."

Porthouse agrees that "workflow efficiency is everything to smaller studios".

"Any tool that can decrease the time it takes to perform a particular process saves money and leaves developers free to improve other areas of the game," he explains.

> **There is a great opportunity for the first games to support HDR to get noticed in the marketplace.**
>
> *John Elliot, Unity*

Sancho-Pradel says: "Small studios need to be particularly pragmatic. If they use a third-party engine, they should be aware of the strengths and pitfalls and design their game around them. Using techniques such as photogrammetry, procedural material generation and multi-channel texturing is affordable even in low-budget productions and can significantly increase the quality of the assets if the art direction of the game is aligned with such techniques."

CONSOLE CALIBRE

As thread upon thread of 'PC Master Race' discussions attest, the trusty desktop has long been considered the flagbearer for bleeding-edge graphics, with the static hardware of consoles acting as a line in the sand beyond which visuals can only toe so far. This could all be set to change, as Xbox's newly announced Project Scorpio and the PS4 Neo look primed to blur the lines between console generations, in line with the continually evolving nature of PC.

"As hardware manufacturers produce new platforms, development teams will happily eat up the extra performance budget to generate higher fidelity visuals," Porthouse predicts. "Yet step changes in hardware do not come annually and for every release a franchise's studio needs to demonstrate graphical improvements even when new hardware is not available."

John Elliot, technical director of Unity's Spotlight team, suggests: "For large studios, there is a great opportunity to stand out by pushing the new hardware to the maximum. For smaller studios, more power provides opportunities in different areas. Many will find creative ways to drive interesting and new visuals."

Among the headline features of the Xbox Scorpio are high-dynamic range and the ability to put at 4K resolutions. With many titles yet to achieve 60 frames per second performance at 1080p on console, will these new display options even be of interest to devs?

"This was the only option they had to move forward," Smedberg proposes. "HDR requires new display hardware and 4K requires more performance. While more performance is always better, I am concerned about fragmentation – that consoles will end up like PCs, with tons of different performance and feature levels that developers have to figure out how to make our games play nice with."

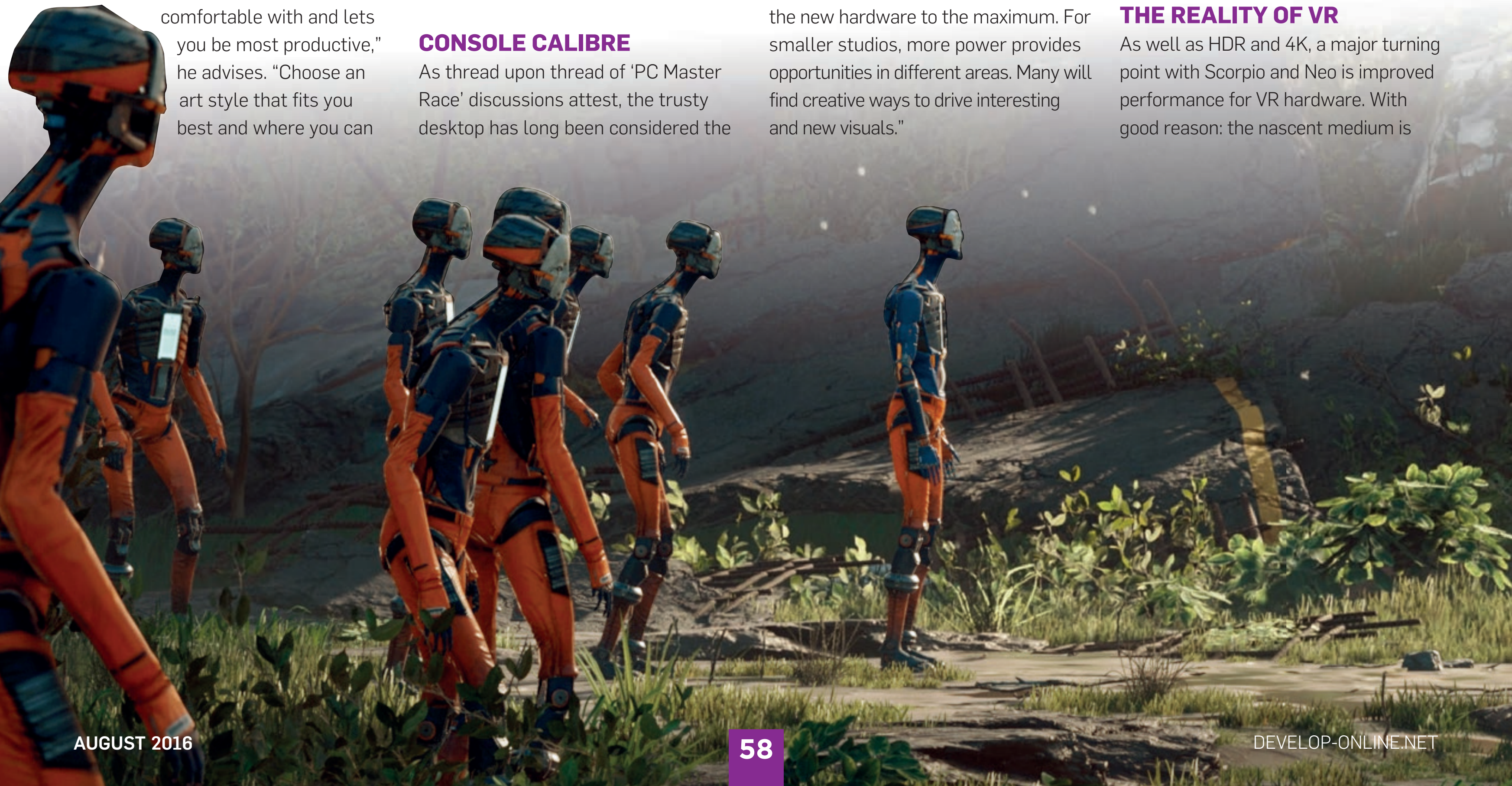
Elliot backs the introduction of HDR and 4K as "interesting features that absolutely should matter to devs".

"While the jump to 4K is much less than that from SD to HD TV, it is still something that gamers will soon come to expect," he forecasts. "You just have to look at how quickly 1080p became the standard for TV to know that there will be huge demand for 4K content.

"HDR really does provide an amazing boost in visual quality, but it is much harder to visualise what this means until you have actually seen it. I'm sure it will quickly become a standard requirement and, as with any new hardware, there is a great opportunity for the first games to support it to get noticed in the marketplace."

THE REALITY OF VR

As well as HDR and 4K, a major turning point with Scorpio and Neo is improved performance for VR hardware. With good reason: the nascent medium is



reliant on flawless performance. It's a challenge that remains so even with the almost limitless potential of PC, as devs work to balance realistic visuals with hitch-free delivery.

“Photorealism is not essential for VR, but if one of your goals is to immerse the player in a highly realistic world, then the game will have to use a highly optimised rendering pipeline in order to hit the framerate required by the VR platform while rendering in stereo high-detailed models, thousands of draw calls and complex shaders,” observes Sancho-Pradel. “DirectX12 and Vulkan are designed to give engineers much more control in terms of memory, command submission and multi-GPU support, which can translate into more optimal rendering pipelines.”

Busch echoes that absorbing players into a VR experience is vital for devs – and visuals play a major role in doing so.

“Without believable, immersive experiences, games will face an uphill battle in VR,” he cautions. “In a fully immersive environment people are ‘in’ the content – which only means that the details, framerate and level of engagement are a daunting task. Mix that with a quagmire of VR hardware, and it is a difficult landscape to develop in – to say the least.”

Smedberg drives home the point that performance is virtual reality's unavoidable challenge, and offers technical advice to devs looking to perfect their game's smoothness.

“The performance requirement for VR is critically important,” he confirms. “If you miss your target framerate here and there in a regular game, you might have a few unhappy customers. If you miss your target framerate in a VR game, your customers may not just stop playing your game – they may stop playing VR altogether.

“With VR you have to design your game graphics with a lower visual fidelity in mind, because you have twice as many pixels to fill and need to have it all rendered in less than 10ms – instead of 16 or 33ms. Many tried and proven rendering techniques won't work, like sprite particles, because in VR you can see that they're just flat squares.

“Better technology can help; faster and more efficient rendering APIs could help your game run much faster on the CPU – you can make more drawcalls and spend more time on AI or physics. GPUs could take advantage of similarities in the shader between the two eye views and run faster on the GPU.”

RESOLUTION REVOLUTION

With a new semi-generation of consoles around the corner, virtual reality continuing to redefine long-established development philosophy and technology always set to take the next major graphical step, what can developers expect to rock the visual world?

“Lighting continues to be one of the most effective, emotive and evocative tools in an artist's bench,” suggests Efremov. “Real-time global illumination, physically-based materials, lights, and cameras/lenses will all carry us much closer to worlds and environments that truly replicate our own.

“Machine learning is such an exciting new area of research, already put to practical use in so many other industries. The possibilities in the future are countless; simulations for populating and simulating game worlds based on photographic reference, expanding animation performances, creating 3D assets, altering the visual style of a game, new levels of AI and so on.”

> **Each year the challenge of delivering visibly better graphics increases and workflow efficiency is the key to success.**
> *Chris Porthouse, Geomerics*

Porthouse echoes Efremov's sentiment that lighting enhancements will be one of the key drivers helping to refine visual fidelity.

“As teams perfect the graphics of their increasingly large world games, lighting and weather effects will play an important part,” he says. “In two to three years' time all exterior environments will be lit with a real-time day/night cycle with believable and consistent bounced lighting, and gamers will be able to seamlessly transition between indoor and outdoor scenes. Each year the challenge of delivering visibly better graphics increases and workflow efficiency is the key to success.”

Smedberg highlights hardware evolution as a strong foundation for devs to expand their graphical ambitions.

“We may see PC graphics hardware that can run at double speed, using 16-bit floating point instead of 32-bit floating point,” he forecasts. “This doubling of performance comes in addition to any other performance increases, like more cores and higher clock frequencies.

“On the rendering technology side, I'm looking forward to using some forms of ray-tracing – not traditional full-scene ray-tracing, but as a partial tool for some specific rendering features.”

Smedberg concludes by reiterating that while pure power is sure to drive visual punch onwards, its benefits are voided without strong design to match.

“Graphics technology is so capable and powerful today that developers have an incredible freedom to choose whatever art style they like,” he enthuses. “Creators can and should choose a style that they feel passionate about and that fits their gameplay and budget goals.” ■

Unity's *Adam* demo, made with the engine's cinematic sequencer tool, demonstrates technology such as real-time area lights and physics simulation tool CaronteFX

ART PRODUCTION: THE FUTURE IS ALREADY HERE

Core Design Studio UK's **Troy Horton** looks ahead to the ways that new console hardware, the blurring of lines between platforms and external art development could evolve in coming years

Games come in all genres and styles whether for console, PC, VR, AR or mobile. One thing all of them have in common is a production pipeline – from design to release and continued support for DLC where applicable.

Regardless of what visual style of game you choose to make, on what platform or indeed what features of an engine you choose, the future of gaming requires that technology moves forever closer to realism – especially in the case of VR.

When you consider the potential of games you need look no further than Microsoft's Project Scorpio – and no doubt Sony will come up with something way above and beyond its planned PS4 Neo in the not-too-distant future.

In the case of Scorpio, with six teraflops of power, several CPUs and 320GB/s of memory bandwidth, not to mention 4K, visual and processing capabilities will go far beyond what we have now, making that goal of total realism several hundred metres closer.

It will take more time and money to produce the kind of content that takes full advantage of its features, yet it can be minimalised to a large extent through smarter production.

PLATFORM PREDICTIONS

Keeping an eye on the future and being ready for it now is critically important as consumers forever demand more in each hardware and software cycle, potentially pushing production costs far beyond your capabilities.

We all want to make amazing console games with the highest quality visuals, yet not many have the means. Mobile developers have more powerful devices than just a year ago and next year will have much more again – and so the cycle continues. Yet in an challenging and difficult mobile market, mobile users – like console gamers – will demand more of the titles they play.

> Regardless of what visual style you choose, the future of gaming requires that technology moves forever closer to realism.

We can see this future already in action today with huge strides being made with physically-based rendering and tools such as Allegorithmic's Substance which allow for far richer, deeper and realistic materials.

Realistic clothing with a pattern-based approach can be achieved using Marvelous Designer, which notably takes out a lot of the handwork required to achieve realism.

Simplygon's tools for optimising 3D models and auto-creating LODs is another fine example of technology that can ease a lot of the burden in art production.

The one thing the above have in common is proof that it's possible to achieve more with less; although you'll still need time to create amazing-looking game art.

One of the major things we forget is that major game engine creators are discussing with the GPU manufacturers the future of game technology years ahead of what we are creating for today.

Making incremental progress in our art pipeline, from an art service provider's perspective, allows us to keep a certain pace and distance without getting out of sight of what's to come.

Other tools such as the fast-growing Shotgun Software, JIRA, Hansoft, can and have proved in many cases to help smooth the workflow to create further efficiencies, especially if you collaborate internally with your artists or external service providers. This can reduce or maintain overheads at current levels in an already cost-heavy business.

There will be a time as game creators when you choose to – or need to, if the market demands it of you – try to create the kind of quality content efficiently that the top game makers can already produce today.

GROWING AMBITIONS

Next year they will be one step ahead of everyone else and we, and other vendors, have to keep up or some of our clients won't be if we can't match what they do. It's a challenge, but a highly worthwhile effort to be at the front.

There are varying reasons why developers choose to use art created externally. It could just be for cost, although this as a reason alone would not have a positive outcome.

There is flexibility and expertise as we and others are geared up not just to be able to handle high quality 3D work, but also 2D and lower-spec requirements.

Quality vendors have experience across multiple engines, workflow tools and creation software, plus capacity that can scale up and down with your production so costs are kept precisely at the levels you need them at the right times.

A developer with a production culture that has a belief of the underlying reasons to outsource art will see all of the benefits it can bring to a business.

There are some amazing tools available to create content with, including the ability to collaborate more easily with external vendors; vendors who are already familiar with the technology being used for games released on the next generation of hardware. ■

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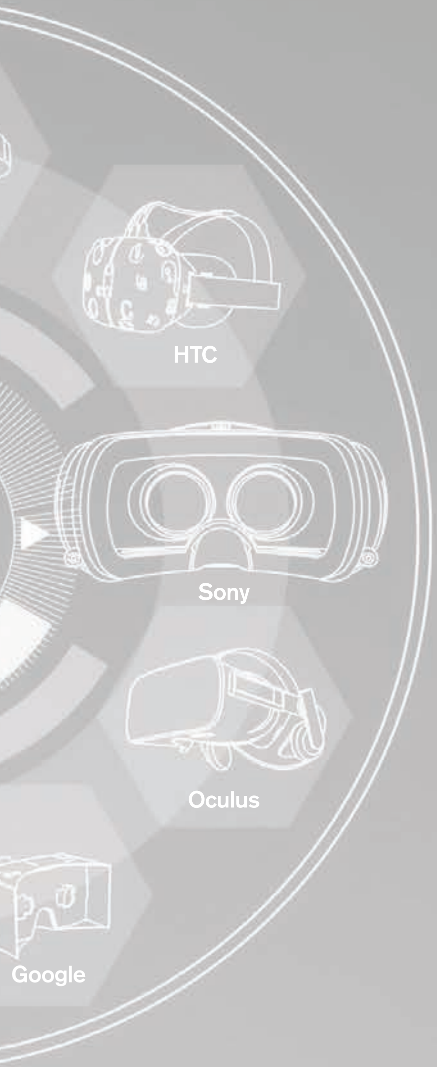


VR Testing has arrived

Testronic Labs, the premier games testing company based in London, Los Angeles and Warsaw, has established VR Testing Facilities.

Stage by Stage Progress Comparison ☑

Pass based approach ensures opinions and biometrics can be monitored as features change to allow comparative user experience to aid in design meetings

Player Response Biometrics ☑

Biometric data capture to gauge player response during UX playtest sessions provided with video capture of gameplay

Comprehensive and Detailed Feedback ☑

Analysis of trends in gameplay and player response alongside qualitative questionnaires based on user feedback

Purpose Built Test Facility ☑

Dedicated VR Lab space designed to remove external influences and ensure technicians have the required level of focus

Open Communication ☑

Email/chat/phone and video communication with specialised POC

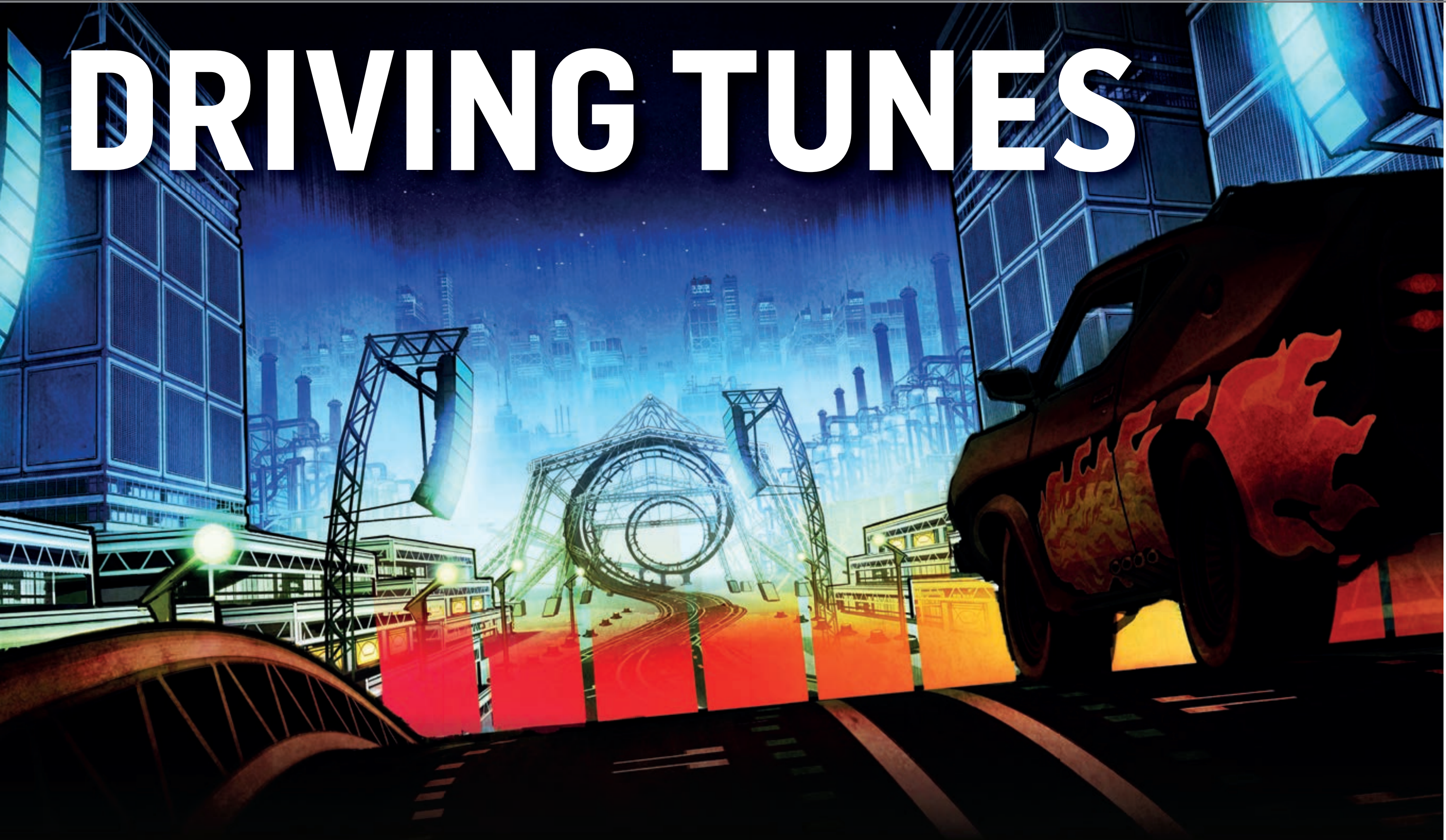
Multi-Platform Testing

Cross Platform testing for comparative analysis of performance and user experience on different HMDs ☑

For more information visit us online or call one of our VR testing experts:

testroniclabs.com/VR | +44 (0) 2070 421 700 | enquire@testroniclabs.com

DRIVING TUNES



Audio-generated landscapes are nothing new, but Foam Entertainment's Riff Racer combines this with arcade racing mechanics. **James Batchelor** finds out how the game enables users to drive through any song

Procedural generation is commonplace today, with pre-programmed algorithms randomly sculpting everything from enemies and items to full virtual environments. Less frequently explored, however, is the use of audio to power that algorithm.

It's not a unique concept. Not only has the rhythm action genre grown from this design idea, titles such as puzzle racer *Audiosurf* have explored the potential of building a game from your own music collection. Foam Entertainment decided to take things a step further.

Founded in 2013, the studio is run by co-creative directors Phil Clandillon and Steve Milbourne, who began their careers in the music industry. Having impressed that market with their tech-led music projects, the two avid gamers turned their attention to our own industry with the aim of making games based on music technology. The result was *Drive Any Track*, later renamed to *Riff Racer*.

"We'd seen *Audiosurf* and the like and always thought: wouldn't that be cool if you could really drive the track like an arcade racer, rather than a collect the block rhythm-type game?" Milbourne tells *Develop*. "So we started experimenting with game designs to see if we could create an enjoyable experience. It kind of went from there."

TRACK RECORD

As Milbourne says, the objective was to create a game unlike any audio-based racer that had come before by using the music to shape the track rather than populate it. To do so, he and his colleague had to take a closer look at the music itself.

"We decided to concentrate more on 'moments' in a song – a change from a verse to a chorus, or a big drop – rather than making a straightforward rhythm game," Milbourne explains.

"We wanted to make the experience immersive and tap into music tribalism, so we designed cars to reflect music genres. A G-wagon type vehicle works for hip-hop, a muscle car for rock, an old fashioned car for classical and so on, and styled environments to the genre you're playing too.

"Getting our analysis to accurately detect 'sections', such as a chorus, was a big challenge, though. A lot of analysis tools just detect things like BPM and go from there."

At first, Milbourne and Clandillon used online API The Echonest to start its analysis and lay the foundation for *Riff Racer*'s music-generated tracks. However, when Spotify purchased Echonest and locked out public use, it was back to the drawing board.

"We had to build our own audio analysis solution, which in the end turned out to work a bit better and is all done on the user side," Milbourne recalls.

> **We decided to concentrate more on 'moments' in a song rather than making a straightforward rhythm game.**
> *Steve Milbourne, Foam Entertainment*

"We originally prototyped the game in Unity. At the time the driving physics in there weren't great, so we ended up using a specific driving engine from another company. That has had its pros and cons, but we're satisfied that the end result drives well and is fun to play."

SAFE SOUNDS

As the duo honed the analysis tools that would study the music and derive the game's environments from it, they had to regularly question how far they wanted to take the concept. Easy listening music might generate a track that players would effortlessly be able to handle, but throw in some heavy metal and the wild landscape that would result might deter players from continuing.

"It was a toss up between being safe so every track is 'playable' or going all out," Milbourne confirms. "If you play an absolute crazy song, then you get an absolutely crazy track. It might be super difficult but someone will get the high score. We opted for the latter, but getting it right was tough."

The fact that users can upload any audio track they choose also means there was no way Foam could fully predict what music might be thrown at the game. They certainly couldn't build it in a way that would exclude anything – as Milbourne observes: "People get pretty passionate when it comes to their own music collections.

"We had to try and get the best balance possible. Ultimately the game is experimental, so some tracks might not make the best racing experience but that's part of the journey. When you find one that just connects really well with the song, it's a great feeling.

"We created different environments and colour schemes for different genres of music, and the gameplay often reflects the genre you're playing. Hip-hop songs tend to be more bouncy, whereas rock songs tend to have more big drifts."

Milbourne and his fellow dev even had fun with the vehicles players use to race along each track. In addition to pre-designed genre-specific ones, the team has snuck some vehicular easter eggs into the game. As an example – although one that has yet to make it into the game, Milbourne stresses – playing Huey Lewis and the News' Power of Love would put you behind the wheel of a *Back To The Future*-style DeLorean.

"The idea came from the thought that driving and music go so well together, there are always songs associated with particular artists or types of music," he says. "We just thought it would be fun to start throwing some of those in-game, a nice little surprise for experimenting. We can't tell you what they are, though."

TUNING ISSUES

There was one final technical hurdle the Foam team needed to overcome: not everyone one has exactly the same songs.

When a tune is first converted into a racetrack, the analysis is done locally on the user's computer and the blueprint for the course is uploaded to Foam's servers. That way, they can ensure everyone who plays that song afterwards does so on the same track, thus making the high scores comparable and fair.

> **Hip-hop songs tend to be more bouncy, whereas rock songs tend to have more big drifts.**
>
> *Steve Milbourne, Foam*

However, there are countless audio formats for *Riff Racer* to decode, many at different sample rates. Equally, the music might come from different sources.

"Even if two players have the same song, there may be slight differences – if say one was ripped from a CD and the other was downloaded from iTunes. Detecting that and making sure the music syncs properly was a challenge.

"So far players have converted hundreds of thousands of songs into unique racetracks so we have a pretty hefty database of song analysis."

Riff Racer originally launched through Steam's Early Access program as *Drive Any Track*. While there is plenty of debate as to whether such initiatives help or hinder development – and potentially damage enthusiasm for the eventual launch – Foam offers nothing but praise.

"Early Access was an amazing experience for us – it really informed the development," says Milbourne.

"When we put the first-ever build live, we got a ton of feedback about one aspect of the game that people didn't enjoy. Because we'd been playing the game during development for around six months, we realised that we were playing it a particular way that wasn't suited to a new user just jumping in.

"We changed the game design and it made the game a lot more enjoyable. If we hadn't gone through that process and just launched it fully with that game design, it definitely would have failed."

The team is now focused on updating the game wherever possible, with an iOS version rolling out this summer. ■

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HEARD ABOUT

UNTIL DAWN: RUSH OF BLOOD

John Broomhall talks cutting-edge audio for VR with Supermassive's Barney Pratt

Supermassive Games is super-serious about VR audio – amply illustrated by their recent hire of ex-Lionhead audio expert Steve Brown specifically to manage future VR sound provision.

They believe, and embrace the notion, that overall player perception of sound in virtual reality is completely different to regular video games. With the player's sense of distance and perspective enhanced in new and sometimes unexpected ways, VR creates dramatic opportunities for audio to help provoke strong visceral responses.

Until Dawn: Rush of Blood audio director Barney Pratt explains how his audio team threw away the rulebook and discovered new tropes and techniques.

"From the outset we knew we would have to adjust our approach, opening the door to experimentation," he says. "Certain things we'd taken for granted simply didn't work in the VR realm. As development continued, the concept of 'choosing our moments' grew – and directly affected our integration approach. *Rush of Blood* exists in the same world as *Until Dawn*, but the step to VR meant continually reshaping the experience from being cinematic to a more immersive one.

"One of the biggest mind-shifts was meticulously giving all sounds, without exception, a true 3D position, otherwise they detracted. The in-world spatialisation of all sounds is vital. Key to the experience is conveying the speed of the cart you're riding on, beyond just the mechanical sounds.

> **The step to VR meant continually reshaping the experience from being cinematic to a more immersive one.**
> *Barney Pratt, Supermassive*

"There was a 'Eureka moment' one day while cycling home. I was reminded of something we all normally subconsciously ignore: the turbulent effect of the wind across your ears. The buffeting is softer at lower speeds and becomes harsher and louder at higher speeds. The turbulence is directly related to head orientation with clear variation between sideways and front-facing turbulence. If the ear is pointing backwards and thus in the slip-stream, virtually no turbulent effect is heard. We accurately replicate this, using both the increased amount of space in the VR mix and the preferred VR audio set-up of playing through headphones, to place these sounds directly into the player's ears."

LISTEN CLOSELY

Pratt believes the improved immersion of virtual reality brings the player closer to the audio in the game – though incredible attention to detail in the integration is vital to achieve a nuanced aural experience.

"The way sounds are attenuated over distance has to sound more realistic than in a filmic experience, creating challenges at long distance with sounds you want to prioritise," he explains.

"Early on, we realised that when characters or objects are very close to the player, we can really invade their personal space, creating audio events which people feel they can literally reach out and touch.

"It can add a visceral layer of creepiness when a character leans in to talk to the player, and it's fantastic for VR horror scares. We call it 'pulling focus'.

"VR soundscapes have a lot more space but it's a mistake to try and fill it with more sounds as any 'clutter' can be a tiring distraction. Choosing your moments is key to the emotional curve. *RoB* is an intense experience, so having emotional lulls is just as important as pushing the highs."

When it comes to emotion, music is clearly a powerful signifier. However in VR, it can feel particularly 'imposed' and therefore disruptive, even potentially psychologically bumping a player out of the experience. For *Rush of Blood*, Supermassive concocted a smart approach.

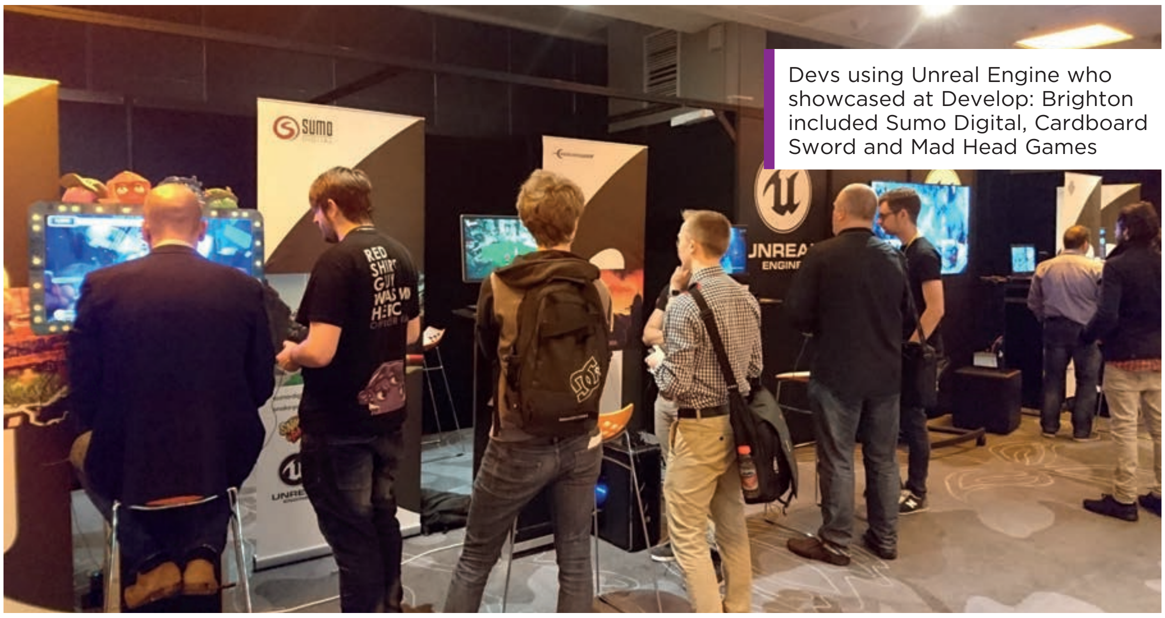
"All music has a 3D position in the world – we were able to place visible loudspeakers wherever we wanted," says Pratt. "As the concept grew, we evolved a backstory for the loudspeakers' presence, further enhancing their diegetic appeal, whereby they embody the mood of the ever-present character who guides you. He scares you, laughs at you and plays spooky music – all to help drive the experience.

"This strong design edict of only having diegetic music resulted in a very immersive game element." ■

John Broomhall is a game audio specialist creating and directing music, sound and dialogue
www.johnbroomhall.co.uk

UNREAL MOMENTUM CONTINUES IN BRIGHTON

Epic Games and Unreal Engine developers find success at Develop: Brighton and the Develop Awards



Devs using Unreal Engine who showcased at Develop: Brighton included Sumo Digital, Cardboard Sword and Mad Head Games

After memorable showings for Unreal Engine and its development community during GDC and E3, the momentum witnessed early in 2016 continues to pick up steam.

Two key industry events, Develop: Brighton and the Develop Awards, recently served as the next stages to showcase Unreal Engine's expanding ecosystem and undisputable value for developers of all kinds.

At Develop: Brighton everyone from industry legends to indie developers gathered to share experiences, information and ideas. Joining Epic at the expo were an assortment of teams, including rising indie star Cardboard Sword which showed off the beautifully detailed *Siege and the Sandfox*, a 2D game built with Unreal Engine 4.

Sumo Digital, which is developing both *Dead Island 2* and *Crackdown 3*, showcased *Snake Pass*, a product of the studio's first internal game jam. Albeit smaller in scope than the blockbuster games Sumo is working to ship, the action puzzler was highly praised at EGX Rezzed 2016.

Meanwhile, Mad Head Games showed off its brand new game *KingeWitch* for the very first time on the Unreal Engine stand, while The Farm 51 showcased the *Chernobyl VR Project,* which blends an educational and movie narrative approach with photogrammetry scanning, seamlessly mixed with 360 movies – all in UE4 – to create a unique and photorealistic experience. It is the very first virtual tour around the Chernobyl and Pripyat area, and it is available now on the Oculus Store. In addition, The Farm 51 is donating a portion of proceeds to victims of the Chernobyl disaster.

Other UE4 teams on show with Epic included R8 Games who gave attendees the opportunity to go hands on with their adrenaline-fueled anti-gravity racer *Formula Fusion* and Pixelblimp who rounded out the offering of games on show with *Jump Stars*, their competitive party game for PlayStation 4, Xbox One and PC.

THE FUTURE'S BRIGHTON

As part of the conference programme, Epic's European community manager Jess Hider gave the talk 'Beyond Unreal Engine: How Epic empowers developers through more than just technology' to provide guidance on how the studio helps developers become more successful through the power of the community, co-marketing, Unreal Dev Grants, custom licence terms and more.

To top off a jam-packed week, Unreal Engine 4 was awarded the Develop Award for Best Engine. This recognition comes from the UK development community's most prestigious panel of judges and peers, and represents the highest honour that the publication bestows upon engines and gaming technology.

The win speaks to the unparalleled momentum the engine has seen over the last two years as it's transitioned to free access for developers of all sizes. UE4 has become the go-to for development teams of all sizes who are making games and experiences for all genres across major platforms.

> **We're grateful to all of the amazing developers who have chosen our technology to power their games, and have made it look so good.**
> *Tim Sweeney, Epic Games*

"The Develop Awards have a dear place in our hearts at Epic, having swept the tools accolades with Unreal Engine 3 from 2008 through 2013," said Tim Sweeney, CEO of Epic Games. "Now in 2016, it's great to be back as Best Engine with Unreal Engine 4.

"We're grateful to all of the amazing developers, from indie to triple-A, who have chosen our technology to power their games, and have made it look so good."

The award for Best Engine comes as UE4's momentum continues to swell. Since going free, the Unreal community has seen massive growth, with more than two million developers now using Epic's engine.

Unreal Engine also had a huge presence at this year's E3, with more than 80 Unreal-powered games on full display. The wide range of games at E3 showcased the engine's scalability and flexibility across genres and platforms, proving that truly any project can be built with UE4.

The rapidly-growing Unreal Engine community continues to be open to all who want to join. With a huge library of tutorials and support from the Unreal Engine community, development with UE4 has never been easier to access and the opportunities to achieve success have never been greater.

Developers who are considering UE4 can find out more and download the engine for free at **unrealengine.com**. ■

HOW TO IMPLEMENT HYBRID FRUSTUM TRACED SHADOWS

Nvidia senior developer technology engineer **Jon Story** explains the method behind the graphics specialist's new shadow technique and reveals how devs can make use of it in their own games

Nvidia HFTS (Hybrid Frustum Traced Shadows) is an advanced hybrid shadow technique that combines frustum tracing, screen-space anti-aliasing and variable penumbra soft shadow filters.

Frustum tracing means that the primitives of occluding objects are ray-traced from the light's point of view to form a shadow on the receiving surfaces. It is a form of ray tracing and, as such, produces perfect results.

HFTS smoothly transitions from a geometrically accurate hard shadow to a super-soft result in real time. It also addresses issues that other shadow technologies do not, like shadow detachment, aliasing and interference from overlapping blockers.

Real-time ray traced shadows have been the holy grail of graphics programmers for years, and the inclusion of HFTS in *Tom Clancy's The Division* is an industry first in this regard.

HFTS brings ray tracing quality to the table without requiring any storage of primitives. In turn, this results in shadows that are a near perfect representation.

Unlike pure shadow mapping techniques, HFTS does not suffer from aliasing due to mismatch in light to screen space mapping, shadow acne due to z-bias tolerance, or peter-panning due to excessive z-bias factor. ■

DEBUT IN THE DIVISION

When searching for a title to be the test case for HFTS, *The Division* came out on top because of its highly detailed, open-world levels. However, HFTS is suitable for most games and we're likely to see it being used in more and more games in the future. HFTS is suited to any game that has shadows, but is best suited to sun shadows.

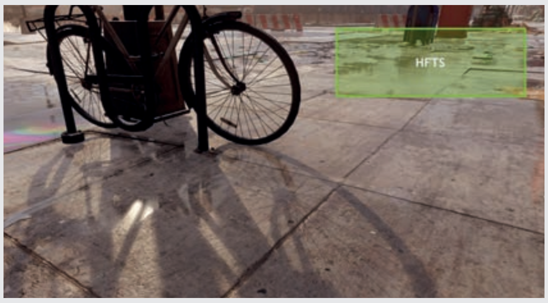
HFTS is only active during daylight hours in *The Division*. At night-time the shadowing technique is switched to percentage closer soft shadows (PCSS). There are shadows cast by the moon and many spotlights around the map, which meant that PCSS was a better choice to keep within the performance budget.

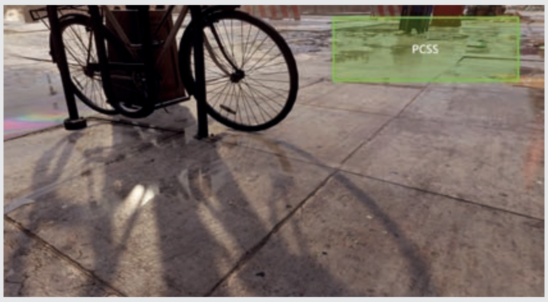
This method is actually controlled within *The Division* itself. The Nvidia ShadowWorks library has the ability to let you change which technique is used from frame to frame.

HFTS will run on all DirectX 11-capable hardware. The question of how fast it will run on lower-end cards will determine the choice a developer makes about how it should be enabled. In *The Division*, the choice was made to only enable HFTS for high-end cards that support hardware conservative raster. Unfortunately, HFTS is unlikely to run fast enough for consoles.

As ever, speed is the name of the game. We'll be working on making it even faster for the future so that it can comprehensively support even more games.

More information on ShadowWorks can be found at **developer.nvidia.com/shadowworks**.

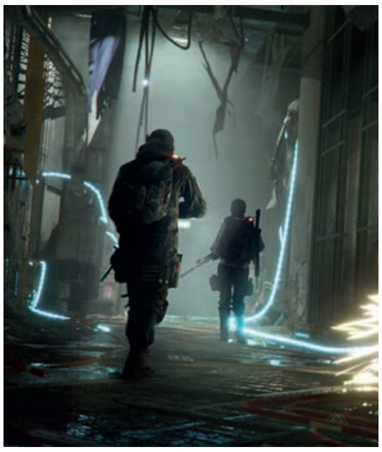




GETTING STARTED WITH HFTS

Here is an overview of the API calls needing to be made by a game engine to get HFTS and other shadowing techniques supported by the library to work. It's broken down into the most logical way in which a game engine is likely to use the library:

```
GameEngine::OnCreateDevice()
{
    // Check the version of the library matches the header file
    GFSDK_ShadowLib_GetVersion()

    // Create the shadow lib context
    GFSDK_ShadowLib_Create()

    // Create the fullscreen shadow buffer where the shadow result will
be placed
    GFSDK_ShadowLib_Context::AddBuffer()

    // Create the light space maps used to store the intermediate results
GFSDK_ShadowLib_Context::AddMap()
}

GameEngine::OnResizeWindow()
{
    // Destroy and re-create new buffers based upon the resize params
    GFSDK_ShadowLib_Context::RemoveBuffer()
    GFSDK_ShadowLib_Context::AddBuffer()
    GFSDK_ShadowLib_Context::RemoveMap()
    GFSDK_ShadowLib_Context::AddMap()
}

GameEngine::OnRender()
{
    // Set the various rendering params (such as the technique)
    GFSDK_ShadowLib_Context::SetMapRenderParams()

    // Update the bounds of the light frusta to be used this frame
    GFSDK_ShadowLib_Context::UpdateMapBounds()

    // Clear / Initialize the resources used in light space rendering
    GFSDK_ShadowLib_Context::InitializeMapRendering()

    // Set rendering state for light space rendering
    GFSDK_ShadowLib_Context::BeginMapRendering()

    // Your standard light space draw calls go here

    // Restore previous rendering state
GFSDK_ShadowLib_Context::EndMapRendering()

    // Clear and render the final shadow buffer result
    GFSDK_ShadowLib_Context::ClearBuffer()
    GFSDK_ShadowLib_Context::RenderBuffer()
    GFSDK_ShadowLib_Context::FinalizeBuffer()

    // Optional - if not wanting to perform a custom modulate with
scene color
    GFSDK_ShadowLib_Context::ModulateBuffer()
}

GameEngine::OnDestroyDevice()
{
    // Destroy resources and the shadow lib context
    GFSDK_ShadowLib_Context::RemoveMap()
    GFSDK_ShadowLib_Context::RemoveBuffer()
    GFSDK_ShadowLib_Context::Destroy()
}
```



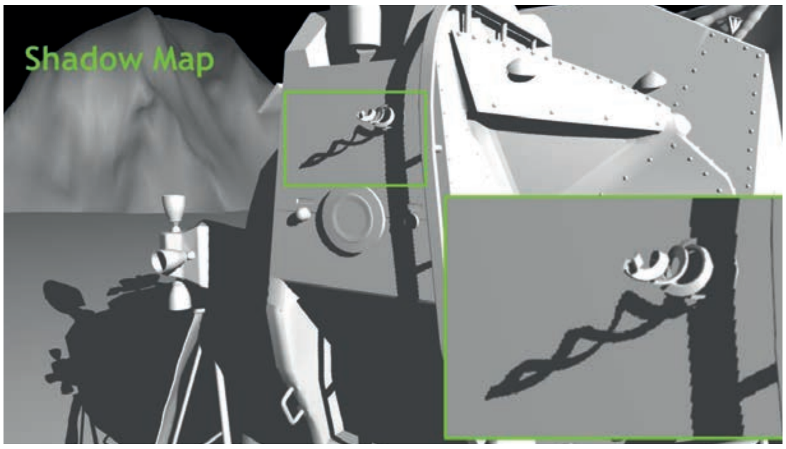
THIS MONTH'S TUTOR

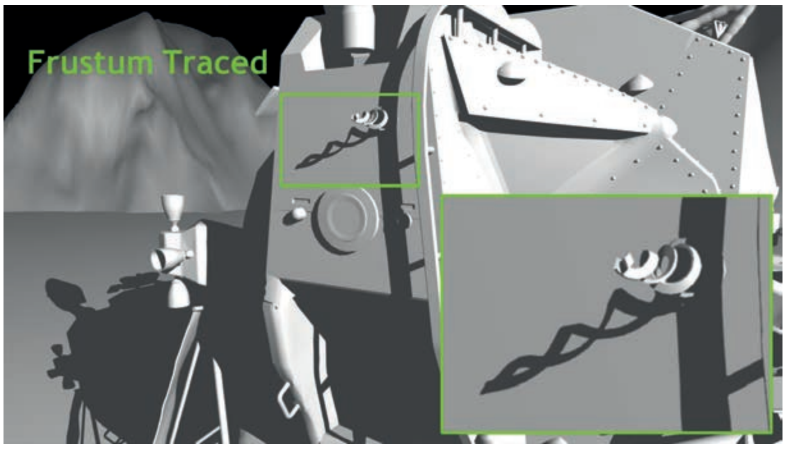
Name: Jon Story

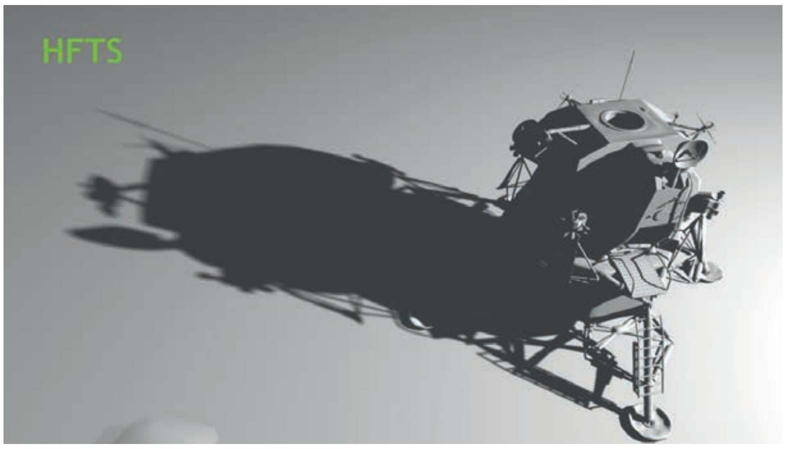
Role: Senior Developer Technology Engineer

Company: Nvidia

Bio: With more than 20 years of experience in the games and computer hardwares industries, Story is well-versed in 3D graphics, GPU/CPU optimisation and parallel programming methods







CONCLUSION

This new hybrid approach to shadows combines the best of both worlds, with razor-sharp hard shadows transitioning to super soft shadows.

You can find more tutorials at **www.develop-online.net/tutorials**

SERVICES SPOTLIGHT

FLIPBOOK

A peak behind the scenes at Flipbook Studio reveals an outfit emerging as a powerhouse of game trailer and cutscene production

OVERVIEW: VFX, art and animation services, including trailers, cutscenes and other promo materials for games
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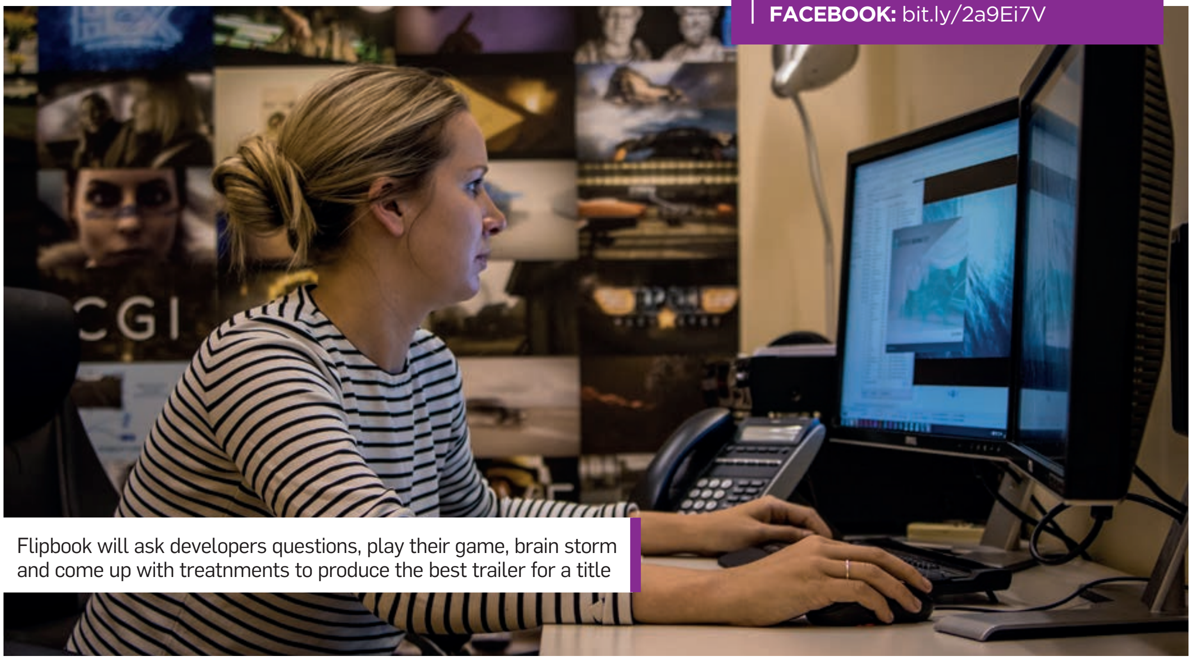
TEL: 0161 236 0346
TWITTER: @flipbookstudio
FACEBOOK: bit.ly/2a9Ei7V

Games have been at the core of Flipbook Studio since the outfit's inception in 2010.

The VFX, animation and CGI service specialist has provided content to clients across the realms of television, advertising, cinema and print media, yet its first major project saw it serve the games industry. Not long after Flipbook had opened its doors, co-founders Ben Haworth and Andrew Lord lead a team crafting a trailer for Codemasters' FPS *Operation Flashpoint: Red River*, blending CGI and live action with striking results.



Flipbook will ask developers questions, play their game, brain storm and come up with treatnments to produce the best trailer for a title

It would prove to be a gig that served the then-fledgling operation well, founding Flipbook an enviable reputation in the games industry that would go on to attract clients such as Rare, Konami, Square Enix, SCEE, King and NDreams.

What makes Flipbook so popular with games makers is the team's apparent knack for capturing a sense of what defines a game in a minute or two of trailer. More than that, say the team, their skill is in telling stories through existing IP.

"It sounds a bit rich doesn't it, since our video games clients more than often come to us with already well-established and thoroughly in-depth game stories?" asks Lord, who also serves as Flipbook's MD and today oversees a team providing trailers, cutscenes and other promotional materials to games firms. "I'm sure we're not the only studio to claim that we're passionate about telling a good story either. Who isn't? But it really isn't a simple task condensing expansive and often complicated game stories into engaging 60- to 120-second trailers or a single piece of artwork."

FRESH EYES

How Flipbook meets that challenge, says Lord, is by applying a fresh pair of experienced eyes from an external team that are well versed in working within fictional realms shaped by other creatives. Ever aware of the need to maximise a given game's appeal to its intended audience, Flipbook ultimately tells stories with other people's stories. Judged on their client list, they seem to do a rather good job of it.

"We often have a small window of time to learn as much about a game as we can before working up creative treatments," reveals Lord. "We try our best to create treatments that do more than connect with an audience on a simply rational level. People may understand what you're trying to say to them, but if they aren't emotionally engaged they just won't buy into it. Our job is to find that relatable, emotional pull in every game we're asked to work on and exploit it; that's what we try and do with every brief."

CREATIVE DEMOCRACY

Part of how Flipbook does that is with a relatively flat creative hierarchy that will be familiar to many a games maker.

"We like to give every single member of our team the opportunity to contribute to creative pitches and treatments irrespective of their role," Lord says of Flipbook's creative approach. "We find getting them involved at an early stage helps to keep everyone enthused and passionate, irrespective of whether they work on that particular production or not."

Flipbook co-founders Andrew Lord (*left*) and Ben Haworth's (*right*) first project was the trailer for *Operation Flashpoint: Red River*

> “People may understand what you’re trying to say to them, but if they aren’t emotionally engaged they just won’t buy into it.
> *Andrew Lord, Flipbook*

Studio-wide brainstorming sessions are not uncommon at Flipbook, and according to Lord, that approach can provide the senior creative team with a wealth of quality material.

That enthusiasm must, of course, be tempered with a realism and moderation that delivers clients the game trailers and cutscenes clients require.

"The games industry is the most passionate industry we work in," asserts Lord. "As much as we like to push boundaries, we're constantly respectful and aware of not overstepping the mark by trying to push something too gimmicky or experimental. We spend a long time getting to grips with a game we're asked to represent: asking questions, playing the game, brain storming and formulating treatments."

That approach – as well as devotion to keeping clients in the creative loop – has served Flipbook well, and based on its current trajectory, there's every chance you'll be seeing a lot more game trailers with the team behind the scenes. ■

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THE NEVERENDING STORY OF FINAL FANTASY XIV

Three years ago this month, Final Fantasy XIV: A Realm Reborn achieved two impossible feats: it reversed the critical failings of its 2010 predecessor and proved that the MMO genre is alive and kicking. Square Enix producer and director Naoki Yoshida takes **Matthew Jarvis** through the title's evolution to discover how the studio perfected things second time around

Very rarely in the world of games is the subtitle 'Reborn' anything other than empty hyperbole. In the case of *Final Fantasy XIV: A Realm Reborn*, however, it's almost an understatement.

The original *FFXIV* – the second MMO in the storied RPG series after 2002's *FFXI* – was launched in late 2010 after five years in development. Despite climbing the charts, critics and players slammed the game for its technical issues, clunky design and poor story, resulting in subscription fees being dropped and its PS3 port being delayed indefinitely mere months after release.

Producer and director Naoki Yoshida was called in to overhaul the title, and cut no corners in his efforts to restore the legacy of its namesake.

"With the release of *A Realm Reborn*, we changed literally everything about *FFXIV*," he recalls. "The game itself changed but other elements, such as server stability, convenience in forming a party and storyline, were altered the most. With all the alterations, *FFXIV* became the title that can meet the expectations of being the latest title in the *Final Fantasy* series."

The work paid off; when it hit shelves in August 2013, *A Realm Reborn* gathered praise for the very aspects for which its predecessor was lambasted and by 2015 had propelled the title's audience to beyond five million paid subscribers. Regular patches and last year's major expansion, *Heavensward*, reinforced that *FFXIV* was here to stay.

> **"With the release of A Realm Reborn, we changed literally everything about Final Fantasy XIV.**
> *Naoki Yoshida, Square Enix*

"If we just wanted to change partially, we wouldn't have chosen the option to recreate the game from scratch," explains Yoshida. "Our intention was to change the game completely. We put a lot of focus on making it a story-driven MMORPG, so receiving huge amounts of positive feedback on the *Heavensward* storyline as well, was one of the happiest things we experienced. Therefore, the storyline will continue to be our key focus."

BUILDING A FANTASY

The first *FFXIV* was developed using Square Enix's in-house Crystal Tools engine, which also powered the *FFXIII* trilogy and *Dragon Quest X*. While it was lauded for its visual fidelity, it proved to be overly resource-hungry for many *FFXIV* players. It was this balance that Yoshida and his team strived to equal.

"*A Realm Reborn* and *Heavensward* are operating on the game engine which was specially built for *FFXIV*," he observes. "For an MMORPG, it's necessary to render as many characters as possible simultaneously. Also, being a title from the *Final Fantasy* series, *FFXIV* is expected to meet the quality of the franchise. In order to materialise these two goals, the exclusive game engine was built."

During the three years it took *FFXIV* to be rebuilt, the latest generation of consoles were quietly gearing up to launch; *A Realm Reborn* would not only need to leapfrog its forerunner's achievements on PC, PS3 and Xbox 360, but also make the technical leap to PS4 and Xbox One.

"To ensure smooth gameplay on PS3 and lower-spec PCs, we made the rendering options highly customisable so players can adjust the settings to their likings," says Yoshida. "These elements are something unique to *FFXIV*. The team also kept updating it to make the game compatible with DirectX11, which was released at the same time as the new hardware. The same DirectX11 coding was recently applied to the PS4 version of the game.

"One of our goals is to minimize the gap in players' experience between different hardware. Being able to enjoy a full-scale MMORPG smoothly with a gamepad is also a feature unique to *FFXIV*. The freedom of the user interface customisation is one of

CHARAKTER
WEISSMAGIER

Unlike many of its MMO peers, *A Realm Reborn* has successfully maintained a subscription model since launch

the largest among the games in the current market."

STORY TIMING

MMO is in many regards the ideal genre for *Final Fantasy* to explore, as a franchise beloved for its sprawling worlds, in-depth levelling systems and iconic cast of characters and creatures. Equally important to so many fans are the games' stories, from *FFVII*'s environmental message to the father-son relationship at the core of *FFX*. Yet MMOs are rarely renowned for their narratives, as repetitive tasks and a sheer quantity of objectives often usurp characterisation and dramatic impact.

"The dev team is putting a lot of effort in creating the main storyline," Yoshida insists. "This is because *FFXIV* is the latest game from the *Final Fantasy* franchise and we wanted to show that an MMORPG can deliver a rich story. That being said, it's not possible for players to complete levelling by simply following through the storyline, so it's true that there are repetitive quests. I guess that ends up balancing the content after all."

Yoshida reveals that key to *A Realm Reborn*'s interwoven quest and narrative design was his team's decision to approach the title as if it were a core instalment in the series.

"I personally like games like *Ultima Online* and *Eve Online* where players are the ones to run the worlds," he explains. "On the other hand, there's a risk that new players may get lost not knowing what to do.

"*FFXIV* is developed with the concept in mind that as long as players follow the storyline, they naturally get to grow up and learn the system almost as if they are playing an offline RPG. There is battle content while following the storyline. Housing, the Gold Saucer, crafting and gathering are laid out outside the storyline. There are some restrictions until the main scenario is completed for players to get used to the game but, after that, they can enjoy freedom and do what they want to do."

He laughs: "Of course, you can put the story aside and spend time fishing if you wish.

"The difference between standalone *Final Fantasy* games and *FFXIV* is whether or not you have your internet cable plugged in. What we aimed for with *FFXIV* was to make you feel like as if you are just playing a traditional *Final Fantasy* game – we think we accomplished this."

MMO MONEY MMO PROBLEMS

In recent years, it's become a common story to see a high-profile MMO launch with a subscription model, only to struggle to maintain a player base and turn free-to-play sometimes mere months later – if not going offline altogether.

It was a fate suffered by the original incarnation of *FFXIV*, so when *A Realm Reborn* launched with a similar setup, you'd have been forgiven for expecting the worst. Three years on and the game hasn't just survived, it's thrived, avoiding the free-to-play fate of titles such as *WildStar* and *Star Wars: The Old Republic*.

"It's not that we are obsessed with the subscription model," states Yoshida. "The reason why we have been applying this model is because *FFXIV* is a game from the *Final Fantasy* series and an MMORPG with many console players, we decided that subscription model has been suitable for players as well as dev and operation teams.

"An MMORPG needs an enormous amount of development cost, staff and stable, regular updates. In order to make sure the development teams are paid and we can secure the development cost for regular updates as planned in a long term, the subscription model can bring stable revenue which is more suitable than a microtransaction model for a large-scale MMORPG."

Yoshida is clearly a staunch believer in the traditional model of the genre, but does that mean he wouldn't embrace free-to-play in the future?

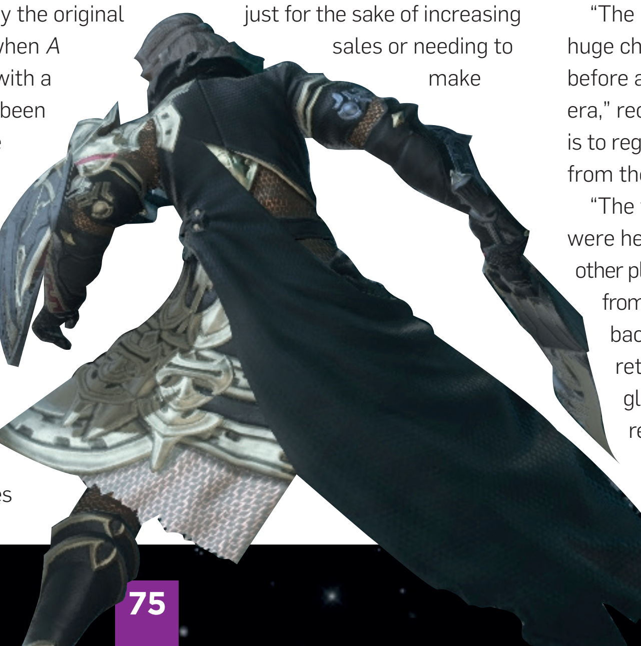
"If the vast majority of players wished the game to be a microtransaction-based free-to-play game, we'd need to shift to this option," he accepts. "I personally think, though, rather than making a lot of vanity items just for the sake of increasing sales or needing to make players to pay per content, I'd prefer to stay with the subscription model for a while and spend money on developing content which offers more fun features to players. I think this is a common wish for all other MMORPGs – that's why they are trying to succeed with the subscription model."

In fact, much of *FFXIV*'s ethos harkens back to the game that made the MMO mainstream. But unlike so many of the titles that have attempted to mimic *World of Warcraft*'s winning formula over the past decade, *A Realm Reborn* has carved out its own sizeable portion of the market.

> **The difference between standalone Final Fantasy games and FFXIV is whether or not your internet cable is plugged in.**
> *Naoki Yoshida, Square Enix*

"The MMORPG genre has had a huge change in the last ten years before and after the *World of Warcraft* era," recounts Yoshida. "Our approach is to regard *FFXIV* as the last MMORPG from the *WoW* era.

"The first generation of MMORPGs were heavily based on battles with other players so once you were away from the game, it was hard to come back. Because it was difficult to return, people from around the globe immersed themselves really deeply by spending their time playing in the game world. But there was one



FFXIV producer and director Naoki Yoshida believes the cost to develop MMOs means the genre cannot match the freedom of *Minecraft* or the narrative strength of *The Witcher III*

title that came into the market to break this trend and change the trend from 'too much enforcement and dedication' to more casual, optional solo play with a smooth matching system and a theme park-like environment. That was *WoW*. In order for MMORPGs to grow further, I believe we need more radical changes in game design. But I also think this will take another ten years."

KNOW YOUR ROLE

As the MMORPG has largely faded in prominence, its legacy has lived on in the massive success of multiplayer-centric sub-genres from collaborative creation games such as *Minecraft* to human-populated survival titles including *DayZ*, *Ark: Survival Evolved* and *The Division*. Meanwhile, single-player open worlds are flourishing in success stories like *The Witcher III*, *Fallout 4* and *Metal Gear Solid V*. Could the MMO reclaim its position as the best of both realms? Yoshida is doubtful.

"As we know from the cancellation of *EverQuest: Next*, which aimed to be a sandbox game while providing freedom in user-created content, it's impossible for an MMORPG to bring creativity and freedom like *Minecraft* offers or to make a story-driven open-world game like *The Witcher III*," he retorts. "Rather than saying it's impossible, it's more to do with no-one willing to take a chance as it requires a huge amount of development resource. It's sad to say, but as gaming is also a business, this is not something we can get away from.

"Looking at *FFXIV*, the level of graphics quality is one of the best among the MMORPG genre, but this is because we put a tremendous amount of resource into creating graphics assets. If we wanted to bring the quality up to the level of *The Witcher III* and keep our three-and-a-half-month regular patch update cycle, we'd need a huge amount of revenue to support the development.

"Considering this balance, you will probably decide to make an open-world standalone RPG first. Then, if you can generate massive revenue with it, you might think about making it into an MMORPG. However, it's more likely that you'd create an offline sequel. I personally like this genre, so if possible I'd like to work on another MMORPG next, but I'd need to be fully prepared and ready for that."

THE FINAL FANTASY?

In a culture increasingly focused on shorter playing sessions on smaller screens, *FFXIV*'s epic universe asks players to invest tens – to hundreds – of hours. It's a challenge that Yoshida admits is more and more at odds with modern trends.

"An MMORPG requires players to spend a lot of time," he says. "They're not like MOBAs or first-person shooters, which can get players really excited within a couple of minutes.

"MMORPGs can offer deeper game experiences compared to other genres – though it takes a tremendous amount of time to get to the point where players can actually experience unique factors, and that doesn't match current demand."

Yoshida outlines the tug of war to attract players to invest more time in MMOs, without diminishing the very factors that established the genre as a powerhouse in the first place.

> **In order for MMORPGs to grow further, we need radical changes in game design.**
> *Naoki Yoshida, Square Enix*

"We'll need an instant matching system and fast-paced content, but if we put too much focus on these areas, we'll need to be making more solo content than *World of Warcraft* or *FFXIV* already have," he continues. "This would lead to the loss of MMO elements, such as playing with thousands of other users. I'm still torn about whether or not this is the future of MMORPGs.

"MMOs will face a tough time in the next decade but, after that, there'll be a time when new types of MMOs will be wanted by players. We are developing *FFXIV* as if it's the last title in the current MMORPG generation. The next generation will bring a completely new type of MMORPG." ■

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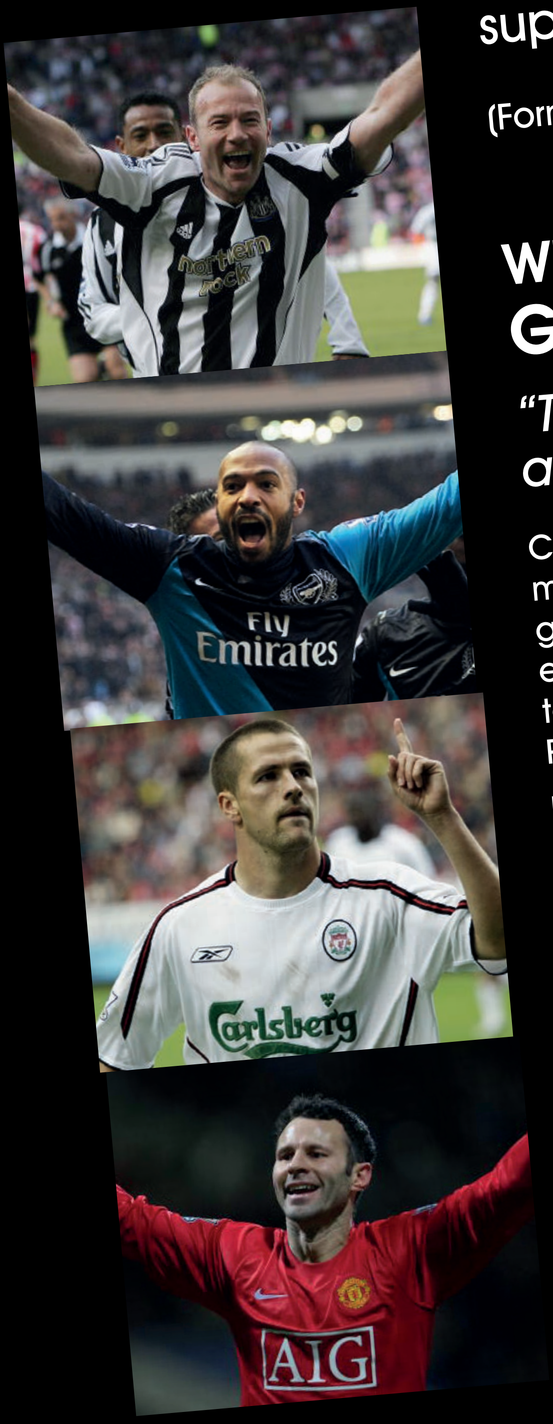

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A JOURNEY INTO SOUND

Worm is building a unique remix of point-and-click adventures and techno music. Founder and art director **Cemre Ozkurt** gets into the rhythm of Beat the Game

Music is an important part of almost every game, but very few titles are so closely entwined with their soundtrack that it serves as an indispensible part of the gameplay.

That is not the case with *Beat the Game*, the upcoming adventure debut from Worm Animation, which swaps point-and-click puzzle tropes for brainteasers designed with audio composition at their core.

"Our hero is a music producer; he finds his way with making music, so mixing music helps him find his way," explains studio founder and art director Cemre Ozkurt. "When he finds new sounds we learn more about him.

"Players need to find objects to create sounds, mix them and watch the cutscenes to understand the story and get clues about what to do next. This way music-making, discovering items and puzzle-solving combines."

GET THE LOOK

Beat the Game isn't all sound and no vision; it also boasts a highly stylised look reminiscent of art, film and games' most unique visual artists.

"Visually we were inspired by Salvador Dali, Tim Burton, *Mad Max* and *Journey*," explains Ozkurt. "Musically, techno and house music, as well as music-making tools like drum machines, modular and classic synthesisers and software like Native Instruments' Maschine and Ableton Live. Game mechanic inspirations are mostly the classic adventure games like *Monkey Island*, *Full Throttle* and *Neverhood*."

It's little surprise that the game has such lofty muses when its creators' credentials are considered. Ozkurt worked on the Oscar-nominated short film *Gopher Broke* and Disney movie *Mickey's Twice Upon a Christmas*, as well as in-game cinematics for series including *Spider-Man*, *Warhammer* and *Sonic*. He's joined by nine devs with equally impressive CVs – and ambitions.

> Even if the player has no musical knowledge and plays the wrong sample, everything should sound good.
>
> *Cemre Ozkurt, Worm*

"Worm started two years ago with a few people from the CG industry who worked at Activision Blizzard, EA, Disney and Telltale," he recalls. "We wanted to make games that encourages people to build stuff. Building always feels better than destroying. We want people to feel good while playing and at the same time think deeply. The idea of making creates much a better community overall and will feed us in a positive way."

STRANGE AND BEAUTIFUL

To produce an unforgettable look, Worm translated the traditional methods of its inspirations into the virtual space.

"We've built a desert to create an empty feeling like in Dali paintings," details Ozkurt. "For that we had to use dynamic terrain tools so the software calculates the large terrain with less CPU overhead."

The studio also had to scale down its visual expectations in order to suit the limitations of the hardware.

"We also wanted to create detailed textures and high quality rendering so the low frequency details of the desert can be balanced with the detailed models," Ozkurt says. "For that we sculpted million-polygon highly-detailed sculptures and turned them all into low-polygon models with texture projections and different level of details."

The need to balance aspiration with realism carried over into the mechanics of the game, as Worm continued to weigh up its artistic elements against the necessitations of gameplay.

"Character navigation was our hardest challenge because we wanted to keep the classic adventure feeling and use cinematic cameras," Ozkurt recounts. "We had to rebuild our camera system three times to fix this issue."

PLAYING IN HARMONY

Adventure games can occasionally leave players stumped with their logic: why does combining a fire extinguisher with a pencil sharpener create a bazooka?

Beat the Game takes the need for brainpower in a different direction, challenging players to combine the noise of objects to move forward. But the musically challenged shouldn't be concerned, Ozkurt insists.

"We have a sound mixer with 24 samples and eight channels with effects," he says. "We had to figure out how to play all these sounds synchronised.

"Even if the player has no musical knowledge and plays the wrong sample, everything should sound good. We wrote an automatic audio synch script and we layered all the sounds with bass, hi-hat, kick, tom, synth, lead and ambient, so the player can't overlap the same type of sounds."

From surreal art to adventure game mechanics and techno rhythms, *Beat the Game*'s disparate parts may seem a mismatch on paper – but much like its lead hero, it ultimately makes for a harmonious combination. ■

TOOLS SPOTLIGHT

POPCORNFX

Persistant Studios is working on a major update to its powerful particle effects middleware. We check in with the latest from the French tools firm

PRODUCT: PopcornFX
DEVELOPER: Persistant Studios
WEBSITE: popcornfx.com
PRICE: Free (Editor),€5,000 (Basic), €10,000 (Extended), €20,000 (Premium) annually
KEY FEATURES:
- Scriptable particles to achieve complex particle behaviors
- Cross-engine and cross-platform
- VR ready, with support for use of smart particles as GUI or spatialised sound emitters

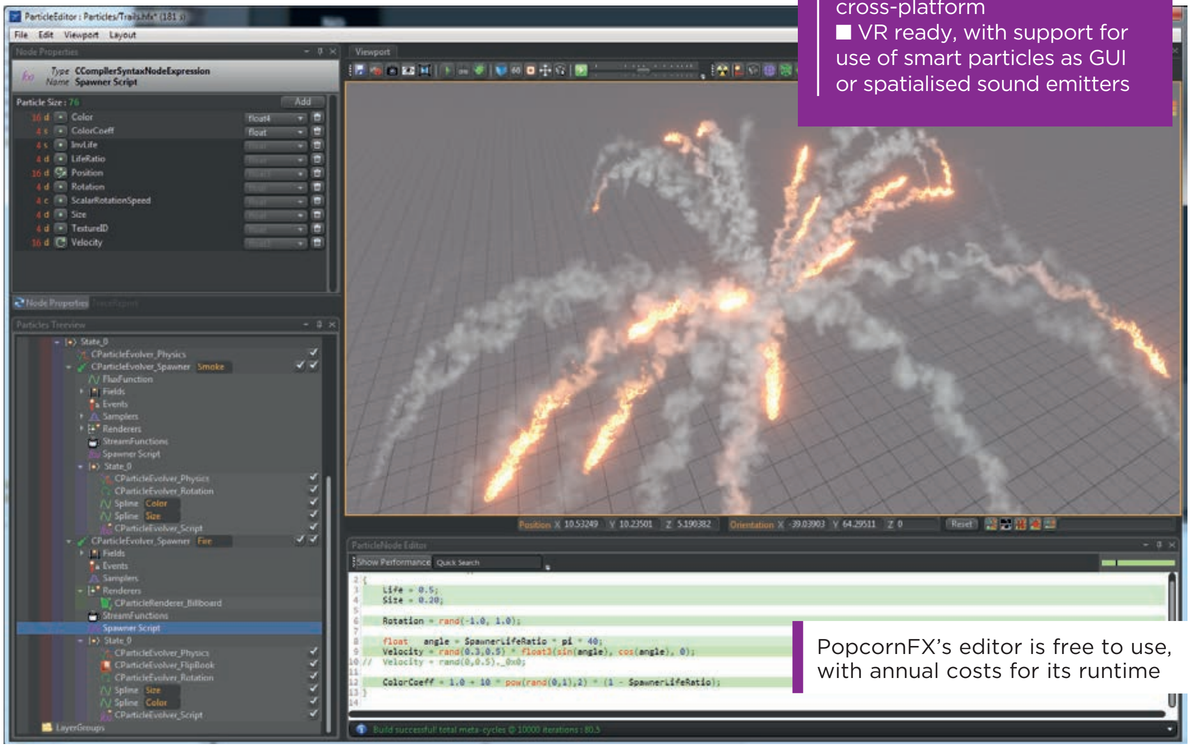
True to the cinematic spectacle its name evokes, PopcornFX is a real-time particle effects middleware for games developed by French tech and art firm Persistant Studios.

The tool is comprised of a dedicated effect editor and a multi-platform C++ runtime, which can be integrated directly into an engine – ready-made plugins for Unity and Unreal are offered directly by Persistant.

Artists create the desired effect – whether that's dust, fire, sparks or something else – in the editor before they are baked into the game's assets and played back by the engine. The properties of each effect can subsequently interact with and be changed by gameplay mechanics.

PopcornFX boasts stream processing architecture and scriptable particles, allowing devs to achieve complex particle behaviours with minimal impact on performance. This extends to support for mobile and virtual reality, with smart particles able to be used as GUI for VR applications or spatialised sound emitters in 3D environments.

PopcornFX's editor offers unlimited free use, with Persistant charging for the tool's runtime. Annual costs start at €5,000 for basic support and extend up to €20,000 for top-of-the-line premium access. Separately, two types of types of licence are available for PopcornFX's engine plugin: the €25 Personal edition designed for non-commercial and educational use, and the €250 Studios offering for indies and small to mid-size teams.



```
{
    Life = 0.5;
    Size = 0.20;

    Rotation = rand(-1.0, 1.0);

    float   angle = SpawnerLifeRatio * pi * 40;
    Velocity = rand(0.3,0.5) * float3(sin(angle), cos(angle), 0);
//  Velocity = rand(0,0.5)._0x0;

    ColorCoeff = 1.0 + 10 * pow(rand(0,1),2) * (1 - SpawnerLifeRatio);
}
```

Build successful! total meta-cycles @ 10000 iterations : 80.5

PopcornFX's editor is free to use, with annual costs for its runtime

FAR-REACHING FX

Indies and triple-A studios alike have made use of PopcornFX, with notable users including *Trials* creator Red Lynx, MMO specialist Trion Worlds, Twisted Pixel Games, and Kylotonn Games in racing franchise *WRC*.

"There's a whole team of dedicated developers working full-time on the middleware, so it changes and gets improved pretty fast," observes Persistant CEO Camille Mirey.

"We recently added a new GPU simulator to the runtime that uses your video card's massive power to process massive amounts of particles.

> **Scripting allows creation of very complex effects while having excellent performance.**
> *Camille Mirey, Persistant*

"In parallel, we've introduced a bunch of cool new features, including the ability to generate particles inside volumetric meshes, particle/particle interactions, some pretty heavy memory and performance improvements, and much more."

To help creators make the most of its software, Persistant has launched educational partnerships with universities around the world to help train artists versed in its tool. The firm also offers workshops and training for in-house artists wanting to learn more. For smaller studios looking to outsource art and effects creation, the company has started offering its own outsourcing services, too.

READY TO POP

While PopcornFX continues to expand its feature set and improve performance and usability, Persistant has plans for a major revision to the software.

"We are currently working hard on the PopcornFX V2, with the primary aim of providing a node-based interface that will allow devs to hide complex custom behaviors in simpler nodes that they can create and share, to widen the tool's userbase, which currently mainly targets technical artists," explains Mirey.

"As a matter of fact, our main strength is currently also our main weakness. Scripting allows creation of very complex effects while having excellent performance, but its downside is that artists need good technical skills to master it. With this new version, we still want to allow the scripting of complex particle behaviours, but this complexity will be encapsulated into nodes in order to allow better workload repartitions amongst the team between technical artists and FX artists."

Mirey adds that attracting relative newcomers to the tool is a large focal point.

"Asset-wise, the tools shall have a more progressive approach and shall be usable at different levels of technicality, ranging from plugging high-level template nodes and behaviors to digging all the way down to scripting," he says. "On top of that, the new editor will address a very common issue our current users have: customising the shaders, to allow a better match with the game's final rendering.

"Last but not least, as physically-based rendering is now fully accepted among the industry, we are currently researching PBR for particles and volumetric effects.

"All those things are aimed at unlocking many new interesting possibilities, improving the workflow and overall power of the tool." ■

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ASK AMIQUS

Q As a games designer, should I make a heavily designed CV with images from games I've worked on? Or stick to a standard format?

Designers are a key creative force in the games industry. It's very important that they can develop and convey new ideas or unique takes on existing ones.

When looking for a new job, it's reasonable to think that the CV is too good an opportunity to miss for you to demonstrate your creative flair and generate immediate interest in your application. The CV is the first thing a hirer or recruiter sees and we all know that there is only one chance to make a first impression.

"As long as the CV isn't overly complicated and flows well then a designed format can look good," says our own Meeta Mistry. "But a well presented standard CV is just as good and won't hinder your chances."

Her colleague Peter Leonard agrees: "Either is fine really, but whether it's standard or not the design of the CV must have clear formatting – so if you are going to go with some design elements of your own make sure it contains clear sections to make it readable and logical to navigate. Game logos can look professional and have immediate recognition but it's very important to make sure you have permission before reproducing any IP you don't own."

When you apply for a job, you are looking to walk the fine line between standing out from the crowd and providing information that's quick to access and easy to read. You also need to be able to show that you can acknowledge when convention demands a high level of flair, or a high level of conformity in your approach. Presenting what's appropriate to your purpose and the audience is part of any job.

> **A pretty CV is not always practical.**
> *Si Pattam, Amiqus*

Generally the expectation from a hiring manager is that a CV will be informative first, so always provide examples of your work through portfolio links and make it easy to access demonstrations of your creativity. The good news is that most CVs are viewed on a screen rather than on paper. This means that providing links to an appropriate site such as Dropbox, YouTube or Behance is very simple and all the hirer has to do is click to see your creativity in all its glory.

"I would stick to a more formal representation of your skills," advises head of recruitment Stig Strand. "Design and creative ability is best shown through a portfolio to showcase all your skills – not just your Photoshop or typography abilities."

There is also the issue that your CV is being viewed on a variety of devices. A busy hirer might go through CVs on a tablet or mobile so what looks fantastic on a desktop might not translate well to a smaller screen.

"Go with a standard CV format every time and leave the images to the portfolio," agrees recruiter Will Hudson. "Many studios have strict filters which may block CVs with images on them. You've also got the lag of downloading if the file is too large."

Contracts manager Si Pittam concurs: "I much prefer a standard CV with folio links. Lots of pictures can prevent recruiters uploading applications to client recruitment portals. Looking pretty is not always practical."

IDEAL DESIGN

While a well-designed CV will get you noticed, the list of considerations is long: convention, readability, navigation, IP reproduction rights, formatting, file size and firewalls, to name a few. In most cases, the risks out-weigh the potential benefits.

So, if you are leaving design and imagery to the portfolio, how do you best show your design credentials on a CV?

"The thing that stands out is what you have contributed personally to each project," says Hudson. "A good format is game name, platform, your role and then a short description of what you were responsible for and what you delivered. For an experienced designer with many games in their softography, the focus should be on the biggest and most recent titles and the highest level of contribution."

Strand concludes: "Check every link before you hit send – it's important to have links to your work in your CV, but it's vital that they actually work." ■

Liz Prince, business manager at recruitment specialist Amiqus, helps solve some of the trickier problems job seekers currently face in the games industry

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